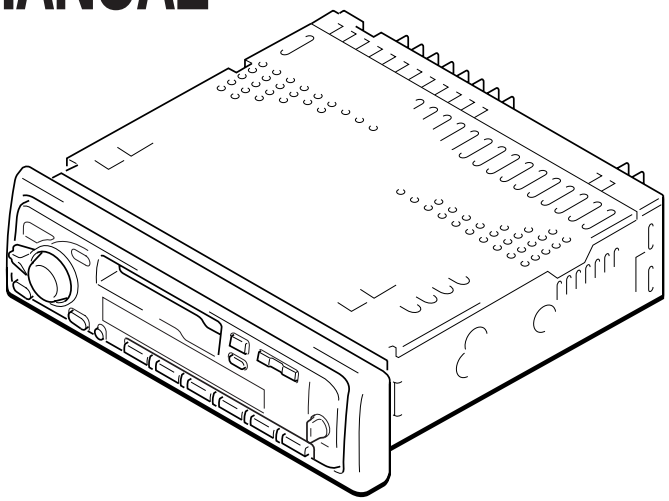
XR-C5120

SERVICE MANUAL

US Model
Canadian Model



Model Name Using Similar Mechanism	XR-C5100
Tape Transport Mechanism Type	MG-25F-136

SPECIFICATIONS

AUDIO POWER SPECIFICATIONS (US model)

POWER OUTPUT AND TOTAL HARMONIC DISTORTION
17 watts per channel minimum continuous average power into 4 ohms, 4 channels driven from 20 Hz to 20 kHz with no more than 1 % total harmonic distortion.

Other specifications

Cassette player section

Tape track	4-track 2-channel stereo
Wow and flutter	0.08 % (WRMS)
Frequency response	30 – 18,000 Hz
Signal-to-noise ratio	58 dB

Tuner section

FM

Tuning range	87.5 – 107.9 MHz
Antenna terminal	External antenna connector
Intermediate frequency	10.7 MHz
Usable sensitivity	9 dBf
Selectivity	75 dB at 400 kHz
Signal-to-noise ratio	65 dB (stereo), 68 dB (mono)
Harmonic distortion at 1 kHz	0.7 % (stereo), 0.4 % (mono)
Separation	35 dB at 1 kHz
Frequency response	30 – 15,000 Hz

AM

Tuning range	530 – 1,710 kHz
Antenna terminal	External antenna connector
Intermediate frequency	10.7 MHz/450 kHz
Sensitivity	30 µV

Power amplifier section

Outputs	Speaker outputs (sure seal connectors)
Speaker impedance	4 – 8 ohms
Maximum power output	40 W × 4 (at 4 ohms)

General

Outputs	Audio output Power antenna relay control lead Power amplifier control lead
Tone controls	Bass ±8 dB at 100 Hz Treble ±8 dB at 10 kHz
Power requirements	12 V DC car battery (negative ground)
Dimensions	Approx. 188 × 58 × 181 mm ($7\frac{1}{2} \times 2\frac{3}{8} \times 7\frac{1}{4}$ in.) (w/h/d)
Mounting dimensions	Approx. 182 × 53 × 164 mm ($7\frac{1}{4} \times 2\frac{1}{8} \times 6\frac{1}{2}$ in.) (w/h/d)
Mass	Approx. 1.2 kg (2 lb 10 oz)
Supplied accessories	Parts for installation and connections (1 set) Front panel case (1)

Design and specifications are subject to change without notice.

FM/AM CASSETTE CAR STEREO

MICROFILM

SONY®

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Flexible Circuit Board Repairing

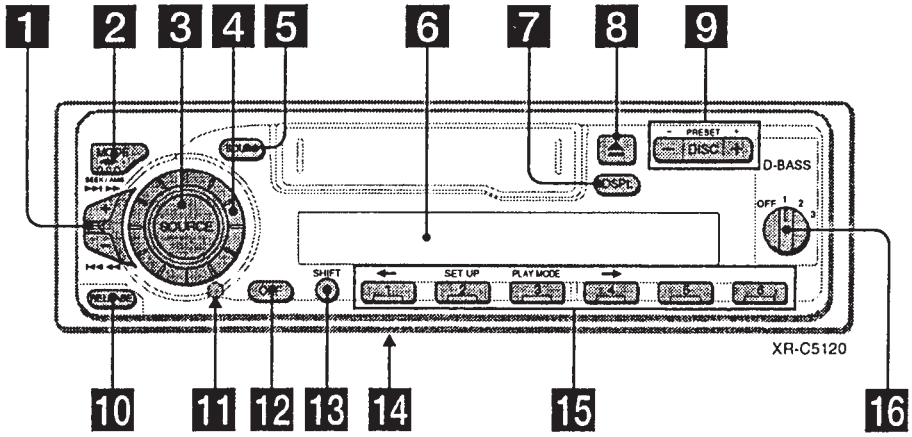
- Keep the temperature of the soldering iron around 270 ˚C during repairing.
- Do not touch the soldering iron on the same conductor of the circuit board (within 3 times).
- Be careful not to apply force on the conductor when soldering or unsoldering.

Notes on chip component replacement

- Never reuse a disconnected chip component.
- Notice that the minus side of a tantalum capacitor may be damaged by heat.

This section is extracted from instruction manual.

Location of controls



Refer to the pages listed for details.

1 SEEK/AMS (seek/Automatic Music Sensor/manual search) control 7, 9, 14

2 MODE (◄II►) button

During tape playback:
Playback direction change 7

During radio reception:
BAND select 8, 9

During CD or MD playback:
CD/MD Unit select 13

3 SOURCE (TAPE/TUNER/CD/MD) button 7, 8, 9, 13

4 Dial (volume/bass/treble/left-right/rear-front control) 6, 12

5 SOUND button 12

6 Display window

7 DSPL (display mode change) button 7, 9, 13, 14

8 ⏏ (eject) button 7

9 PRESET/DISC button

During radio reception:
Preset stations select 9

During CD/MD playback:
Disc change 14

10 RELEASE (front panel release) button 5, 17

11 Reset button (located on the front side of the unit behind the front panel) 5

12 OFF button 5, 7

13 SHIFT button

PLAY MODE 8, 9, 15

SET UP 6, 12, 14

14 POWER SELECT switch (located on the bottom of the unit)
See "POWER SELECT switch" in the Installation/Connections manual.

15 Number buttons 9

16 D-BASS control 13

4

Getting Started

Resetting the unit

Before operating the unit for the first time or after replacing the car battery, you must reset the unit.
Remove the front panel and press the reset button with a pointed object, such as a ball-point pen.

Reset button

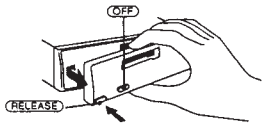
Note
Pressing the reset button will erase the clock setting and some memorized functions.

Detaching the front panel

You can detach the front panel of this unit to protect the unit from being stolen.

1 Press (OFF).

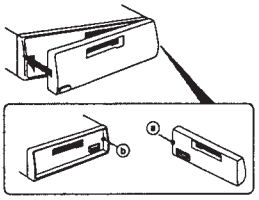
2 **Press (RELEASE), then slide the front panel a little to the left, and pull it off towards you.**



Notes
- *Be sure not to drop the panel when detaching it from the unit.*
- *If you detach the panel while the unit is still turned on, the power will turn off automatically to prevent the speakers from being damaged.*
- *When carrying the front panel with you, use the supplied front panel case.*

Attaching the front panel

Attach part ⓐ of the front panel to part ⓑ of the unit as illustrated and push the left side into position until it clicks.



Notes
- *Be sure not to attach the front panel upside down.*
- *Do not press the front panel too hard against the unit when attaching it.*
- *Do not press too hard or put excessive pressure on the display window of the front panel.*
- *Do not expose the front panel to direct sunlight or heat sources such as hot air ducts, and do not leave it in a humid place. Never leave it on the dashboard of a car parked in direct sunlight or where there may be a considerable rise in temperature.*

Caution alarm

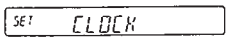
If you turn the ignition key switch to the OFF position without removing the front panel, the caution alarm will beep for a few seconds (only when the POWER SELECT switch on the bottom of the unit is set to the Ⓐ position).
If you connect an optional power amplifier and do not use the built-in amplifier, the beep sound will be deactivated.

Setting the clock

The clock uses a 12-hour digital indication.

Example: To set the clock to 10:08

1 **Press (SHIFT), then press (2) (SET UP) repeatedly until "CLOCK" appears.**



❶ **Press (4) (→).**

The hour indication flashes.

❷ **Set the hour.**

to go backward

to go forward

❸ **Press (4) (→).**

The minute indication flashes.

❹ **Set the minute.**

to go backward

to go forward

2 **Press (SHIFT).**

The clock starts.

3 **Press (SHIFT).**
After the clock setting is complete, the display returns to normal playback mode.

Note
If the POWER SELECT switch on the bottom of the unit is set to the Ⓑ position, turn the power on first, then set the clock.

5 6

Installation

Precautions

- Do not tamper with the four holes on the upper surface of the unit. They are for tuner adjustments to be done only by service technicians.
- Choose the installation location carefully so that the unit will not interfere with normal driving.
- Avoid installing the unit in areas subject to dust, dirt, excessive vibration, or high temperatures, such as in direct sunlight or near heater ducts.
- Use only the supplied mounting hardware for a safe and secure installation.

Mounting angle adjustment

Adjust the mounting angle to less than 20°.

How to detach and attach the front panel

Before installing the unit, detach the front panel.

A To detach

Before detaching the front panel, be sure to press (OFF). Press (RELEASE), then slide the front panel a little to the left, and pull it off towards you.

B To attach

Attach part ⓐ of the front panel to part ⓑ of the unit as illustrated and push the left side into position until it clicks.

Installation

Précautions

- Ne pas toucher les quatre orifices sur le panneau supérieur de l'appareil. Ils servent aux réglages du syntoniseur qui ne doivent être effectués que par un technicien.
- Choisir soigneusement l'emplacement d'installation pour que l'appareil ne gêne pas le chauffeur pendant la conduite.
- Éviter d'installer l'appareil dans un endroit exposé à des températures élevées, comme en plein soleil ou à proximité d'une bouche d'air chaud, ou à de la poussière, saleté ou vibrations violentes.
- Pour garantir un montage sûr, n'utiliser que le matériel fourni.

Réglage de l'angle de montage

Ajuster l'inclinaison à un angle inférieur à 20°.

Retrait et pose de la façade

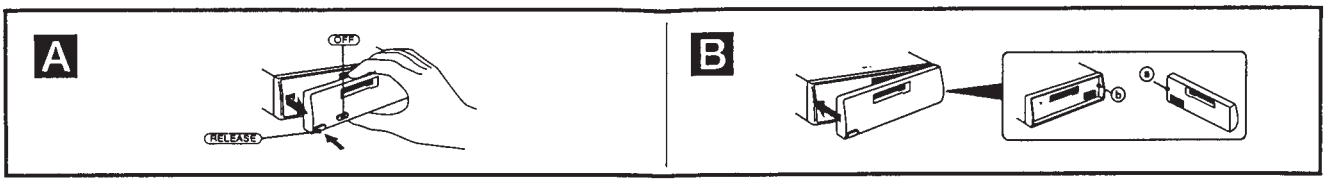
Avant d'installer l'appareil, déposer la façade.

A Pour retirer

Avant de déposer la façade, ne pas oublier d'appuyer sur (OFF). Appuyer ensuite sur (RELEASE), puis faire glisser la façade légèrement vers la gauche et enlever la façade en tirant à soi.

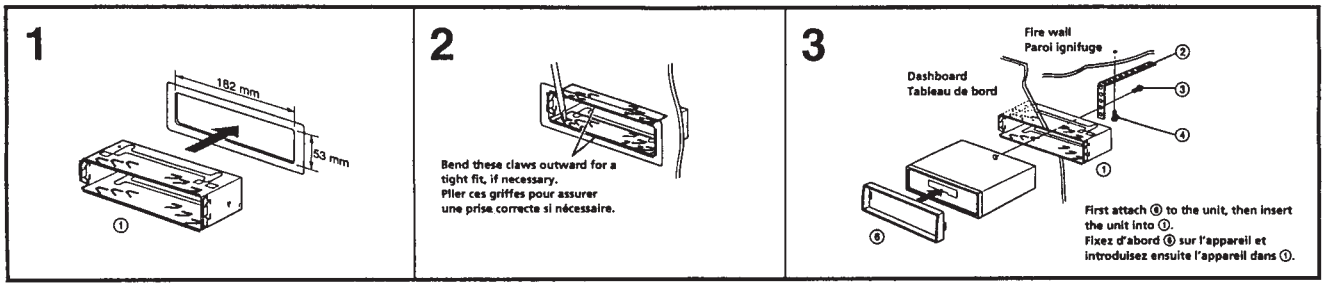
B Pour attacher

Fixez la partie ⓐ de la façade sur la partie ⓑ de l'appareil, comme indiqué sur l'illustration, puis poussez jusqu'au déclic.



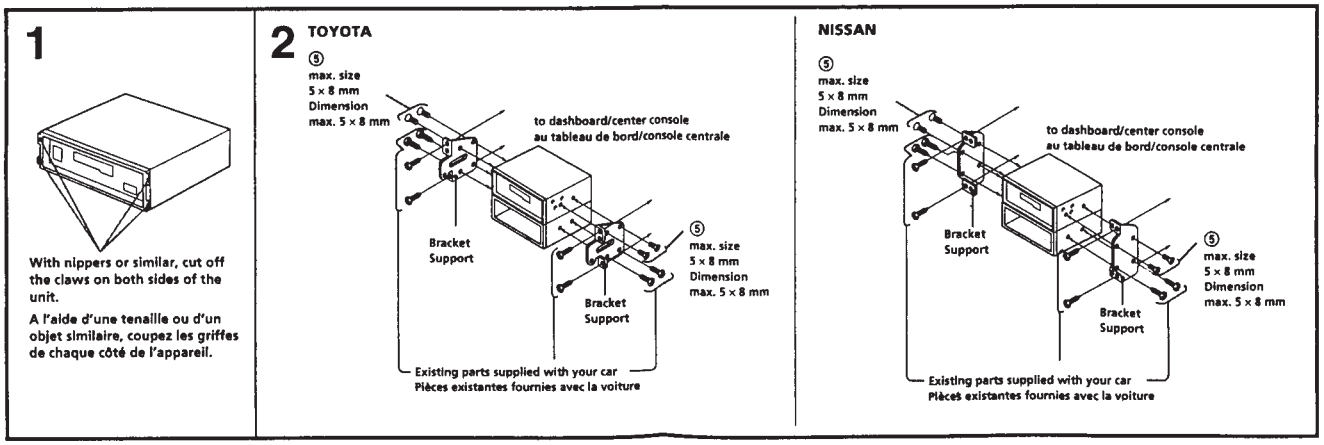
Mounting example

Installation in the dashboard



Mounting the unit in a Japanese car

You may not be able to install this unit in some makes of Japanese cars. In such a case, consult your Sony dealer.



Note
To prevent malfunction, install only with the supplied screws ⑤.

Installation de l'appareil dans une voiture japonaise

Cet appareil ne peut pas être installé dans certaines voitures japonaise. Consultez, dans ce cas, votre concessionnaire Sony.

Remarque
Pour éviter tout dysfonctionnement, utilisez uniquement les vis ⑤ pour le montage.

Connections

Caution

- This unit is designed for negative ground 12 V DC operation only.
- Be careful not to pinch any wires between a screw and the body of the car or this unit or between any moving parts such as the seat railing, etc.
- Before making connections, disconnect the ground terminal of the car battery to avoid short circuits.
- Connect the **yellow** and **red** power input leads only after all other leads have been connected.
- Be sure to connect the red power input lead to the positive 12 V power terminal which is energized when the ignition key is in the accessory position.
- **Run all ground wires to a common ground point.**
- Connect the yellow cord to a free car circuit rated higher than the unit's fuse rating. If you connect this unit in series with other stereo components, the car circuit they are connected to must be rated higher than the sum of the individual component's fuse rating. If there are no car circuits rated as high as the unit's fuse rating, connect the unit directly to the battery. If no car circuits are available for connecting this unit, connect the unit to a car circuit rated higher than the unit's fuse rating in such a way that if the unit blows its fuse, no other circuits will be cut off.

If your car has no accessory position on the ignition key switch — POWER SELECT switch

The front panel illumination is factory-set to be turned on even when the unit is not being played. However, this setting may cause some car battery to wear **If your car has no accessory position on the ignition key switch.** To avoid this battery wear, **set the POWER SELECT switch located on the bottom of the unit to the ⓑ position, then press the reset button.** The illumination is reset to stay off while the unit is not being played.

Notes

- *The caution alarm for the front panel is not activated when the POWER SELECT switch is set to the ⓑ position.*
- *Do not use excessive force when changing the POWER SELECT switch.*

Reset button

When the installation and connections are complete, be sure to press the reset button with a ball-point pen, etc.

Connexions

Précautions

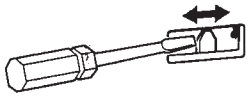
- Cet appareil est exclusivement conçu pour fonctionner **sur une tension de 12 V CC avec masse négative.**
- Veiller à ne pas coincer de fils entre une vis et la **carrosserie de la voiture ou cet appareil** ou encore entre des pièces mobiles comme les glissières des **sièges, etc.**
- Avant d'effectuer les connexions, débrancher la **borne de** terre de la batterie du véhicule pour éviter tout court-circuit.
- Brancher les fils d'entrée d'alimentation **jaune et rouge** seulement après avoir terminé tous les autres branchements.
- Veiller à ne pas raccorder le fil rouge d'entrée d'**alimentation à la borne positive de 12 V** qui est alimentée quand la clé de contact est sur la position **accessoires.**
- **Rassembler tous les fils de terre en un point de masse commun.**
- Brancher le câble jaune à un circuit libre de la voiture dont la capacité nominale est supérieure à la capacité du fusible de l'appareil. Si vous branchez cet appareil en série avec d'autres composants stéréo, le circuit de la voiture auquel ils sont raccordés doit afficher une capacité nominale supérieure à la somme des capacités individuelles de chaque composant. S'il n'y a pas de circuits de voiture affichant une capacité égale à la capacité du fusible de l'appareil, brancher l'appareil directement à la batterie. Si aucun circuit de voiture n'est disponible pour connecter cet appareil, brancher l'appareil à un circuit de voiture supérieur à la capacité du fusible de l'appareil de telle sorte que si l'appareil grille son fusible, aucun autre circuit ne soit coupé.

Si l'appareil est utilisé dans une voiture dont la clé de contact n'a pas de position accessoires — Interrupteur POWER SELECT

L'éclairage de la façade est réglé en usine de manière à s'allumer même lorsque l'appareil ne fonctionne pas. Ce réglage risque cependant d'épuiser la batterie **si l'appareil est utilisé dans une voiture dont la clé de contact ne comporte pas de position accessoires.** Pour éviter d'épuiser la batterie, **régler l'interrupteur POWER SELECT situé sur le dessous de l'appareil sur la position ⓑ et appuyer ensuite sur la touche de réinitialisation.** L'éclairage est désormais réglé pour rester éteint quand l'appareil n'est pas utilisé.

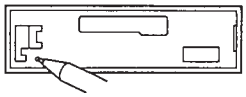
Remarques

- *L'avertisseur de la façade n'est pas activé lorsque l'interrupteur POWER SELECT est réglé sur la position ⓑ.*
- *N'exercez pas une pression excessive lorsque vous commutez l'interrupteur POWER SELECT.*

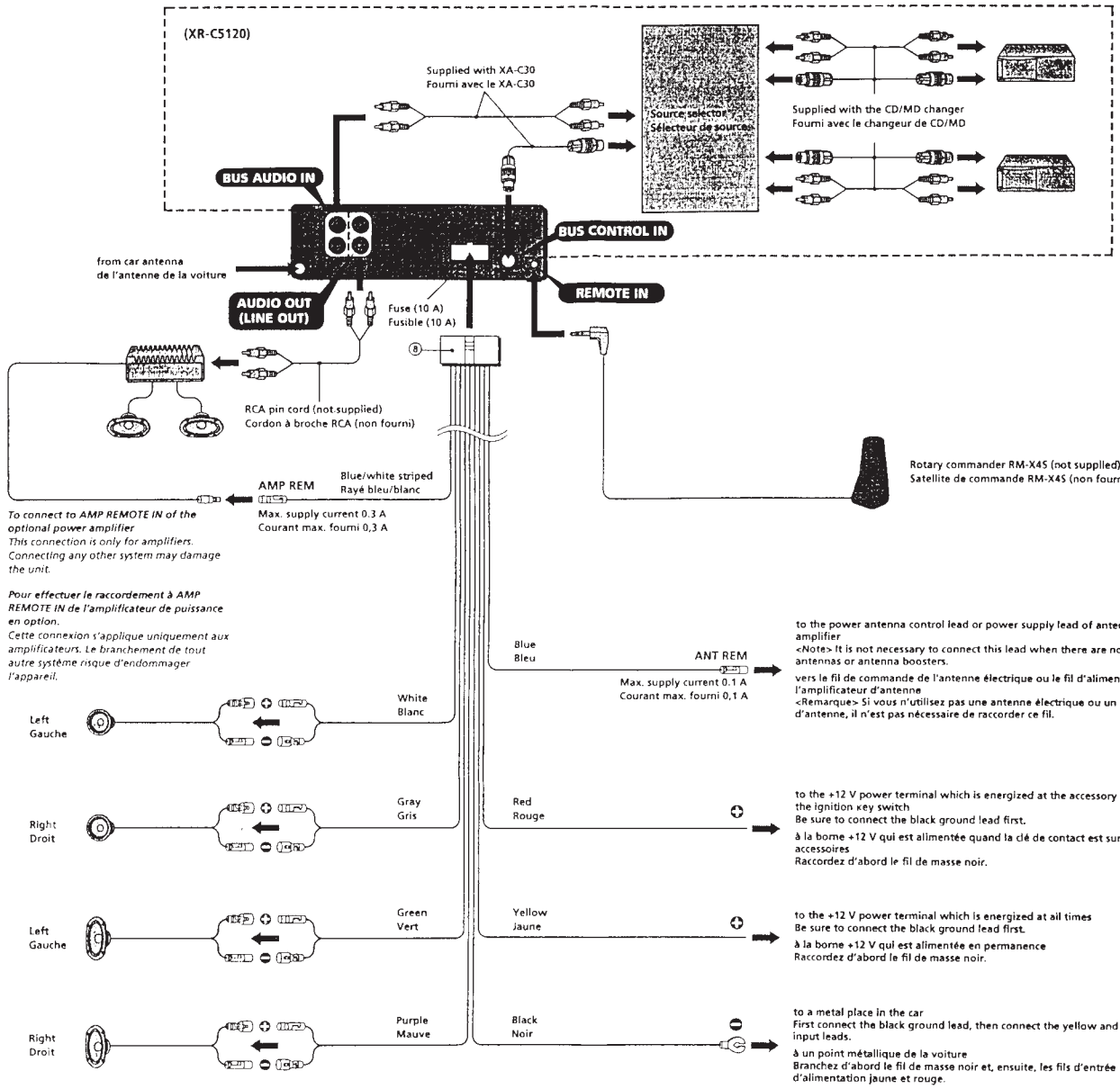


Touche de réinitialisation

Quand l'installation et les connexions sont terminées, appuyer sur la touche de réinitialisation avec un stylo à bille, etc.



Connection example
Exemple de raccordement


(XR-C5120)
Supplied with XA-C30
Fourni avec le XA-C30
Source selector
Sélecteur de source
Supplied with the CD/MD changer
Fourni avec le changeur de CD/MD
BUS AUDIO IN
BUS CONTROL IN
from car antenna
de l'antenne de la voiture
REMOTE IN
AUDIO OUT
(LINE OUT)
Fuse (10 A)
Fusible (10 A)
RCA pin cord (not supplied)
Cordon à broche RCA (non fourni)
Rotary commander RM-X4S (not supplied)
Satellite de commande RM-X4S (non fourni)
AMP REM
Blue/white striped
Rayé bleu/blanc
Max. supply current 0.3 A
Courant max. fourni 0,3 A
To connect to AMP REMOTE IN of the optional power amplifier
This connection is only for amplifiers. Connecting any other system may damage the unit.
Pour effectuer le raccordement à AMP REMOTE IN de l'amplificateur de puissance en option.
Cette connexion s'applique uniquement aux amplificateurs. Le branchement de tout autre système risque d'endommager l'appareil.
Blue
Bleu
ANT REM
Max. supply current 0.1 A
Courant max. fourni 0,1 A
to the power antenna control lead or power supply lead of antenna booster amplifier
<Note> It is not necessary to connect this lead when there are no power antennas or antenna boosters.
vers le fil de commande de l'antenne électrique ou le fil d'alimentation de l'amplificateur d'antenne
<Remarque> Si vous n'utilisez pas une antenne électrique ou un amplificateur d'antenne, il n'est pas nécessaire de raccorder ce fil.
Left
Gauche
White
Blanc
Right
Droit
Gray
Gris
Red
Rouge
to the +12 V power terminal which is energized at the accessory position of the ignition key switch
Be sure to connect the black ground lead first.
à la borne +12 V qui est alimentée quand la clé de contact est sur la position accessoires
Raccordez d'abord le fil de masse noir.
Left
Gauche
Green
Vert
Yellow
Jaune
to the +12 V power terminal which is energized at all times
Be sure to connect the black ground lead first.
à la borne +12 V qui est alimentée en permanence
Raccordez d'abord le fil de masse noir.
Right
Droit
Purple
Mauve
Black
Noir
to a metal place in the car
First connect the black ground lead, then connect the yellow and red power input leads.
à un point métallique de la voiture
Branchez d'abord le fil de masse noir et, ensuite, les fils d'entrée d'alimentation jaune et rouge.

Notes on the control leads
- *The power antenna control lead (blue) supplies +12 V DC when you turn on the tuner or when you activate the ATA (Automatic Tuner Activation) function.*
- *A power antenna without relay box cannot be used with this unit.*

Memory hold connection
When the yellow power input lead is connected, power will always be supplied to the memory circuit even when the ignition key is turned off.

Notes on speaker connection
- *Before connecting the speakers, turn the unit off.*
- *Use speakers with an impedance of 4 to 8 ohms, and with adequate power handling capacities. Otherwise, the speakers may be damaged.*
- *Do not connect the terminals of the speaker system to the car chassis, and do not connect the terminals of the right speaker with those of the left speaker.*
- *Do not attempt to connect the speakers in parallel.*
- *Do not connect any active speakers (with built-in amplifiers) to the speaker terminals of the unit. Doing so may damage the active speakers. Be sure to connect passive speakers to these terminals.*

Remarques sur les fils de contrôle
- *Le fil de commande de l'antenne électrique (bleu) fournit une alimentation de + 12 V CC lorsque vous mettez le syntoniseur sous tension ou que vous sélectionnez la fonction d'activation automatique (ATA) de la radio.*
- *Une antenne électrique sans boîtier de relais ne peut pas être utilisée avec cet appareil.*

Connexion pour la conservation de la mémoire
Lorsque le fil d'entrée d'alimentation jaune est raccordé, le circuit de la mémoire est alimenté en permanence même si la clé de contact est sur la position d'arrêt.

Remarques sur la connexion des haut-parleurs
- *Avant de raccorder les haut-parleurs, mettre l'appareil hors tension.*
- *Utiliser des haut-parleurs ayant une impédance de 4 à 8 ohms et une capacité adéquate sous peine de les endommager.*
- *Ne pas raccorder pas les bornes du système de haut-parleur au châssis de la voiture, et ne pas connecter les bornes du haut-parleur droit à celles du haut-parleur gauche.*
- *Ne pas tenter de raccorder les haut-parleurs en parallèle.*
- *Ne pas connecter de haut-parleurs actifs (équipés d'un amplificateur intégré) aux bornes de haut-parleur de l'appareil. Les haut-parleurs actifs risquent sinon d'être endommagés. Veiller par conséquent à raccorder des haut-parleurs passifs à ces bornes.*

Connection diagram
Schémas de connexion

Equipment used in illustrations (not supplied)
Appareils utilisés dans les illustrations (non fournis)

Front speaker
Haut-parleur frontal

Power amplifier
Amplificateur de puissance

Rear speaker
Haut-parleur arrière

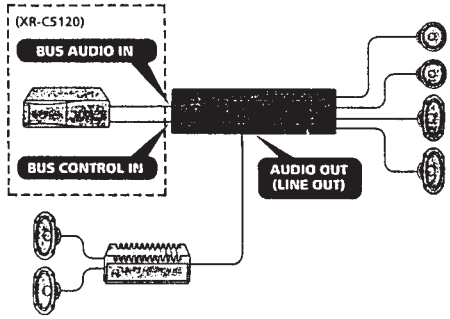
CD/MD changer
Changeur de CD/MD

For connecting two or more changers, the source selector XA-C30 (optional) is necessary.

Dans le cas du raccordement de deux changeurs ou plus, le sélecteur de source XA-C30 (optionnel) est indispensable.

A

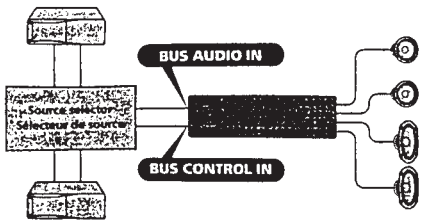
B



Notes
- *Be sure to connect the ground cord before connecting the amplifier.*
- *If you connect an optional power amplifier and do not use the built-in amplifier, the beep sound will be deactivated.*

Remarques
- *Raccordez d'abord le fil de masse avant de connecter l'amplificateur.*
- *Si vous raccordez un amplificateur de puissance et que vous n'utilisez pas l'amplificateur intégré, le bip sonore est désactivé.*

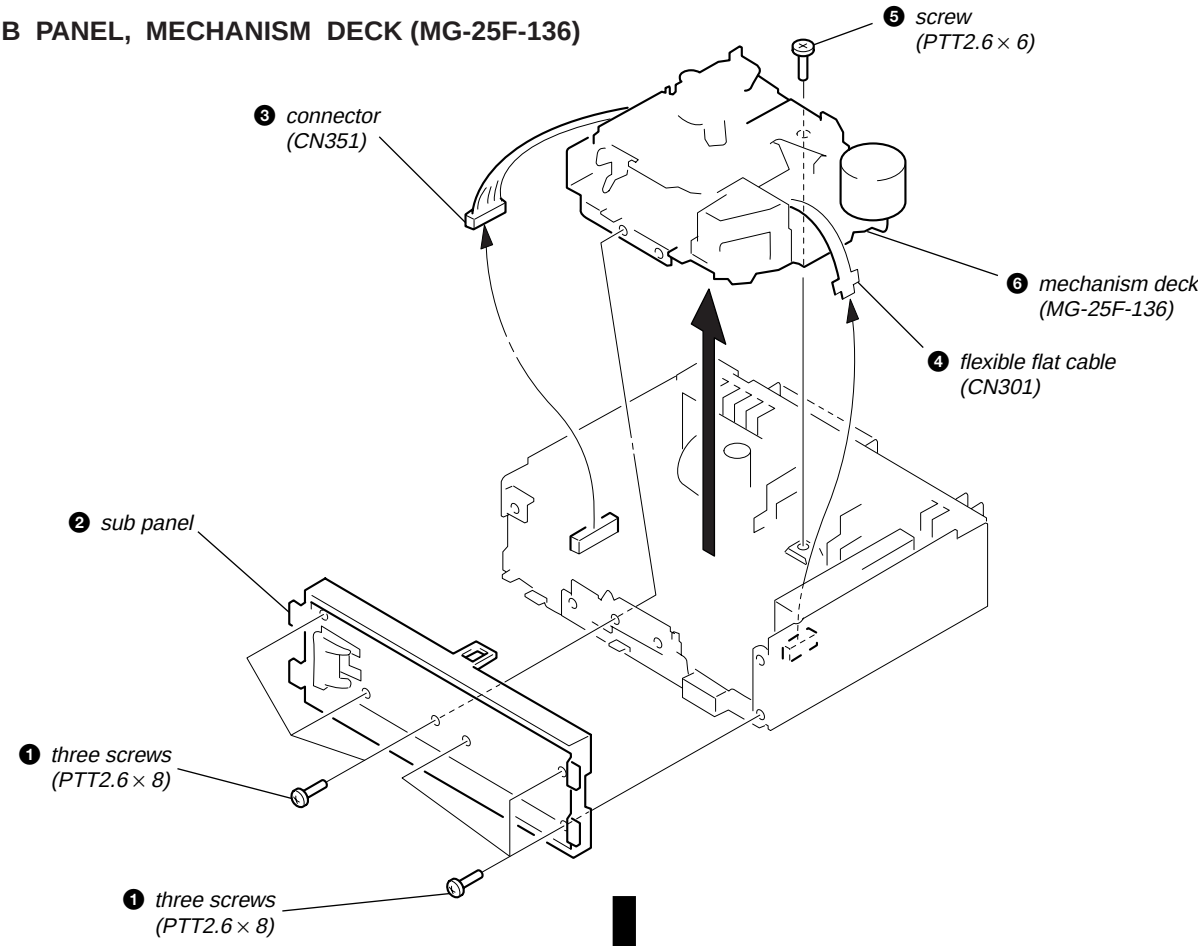
C **XR-C5120 only**
XR-C5120 seulement



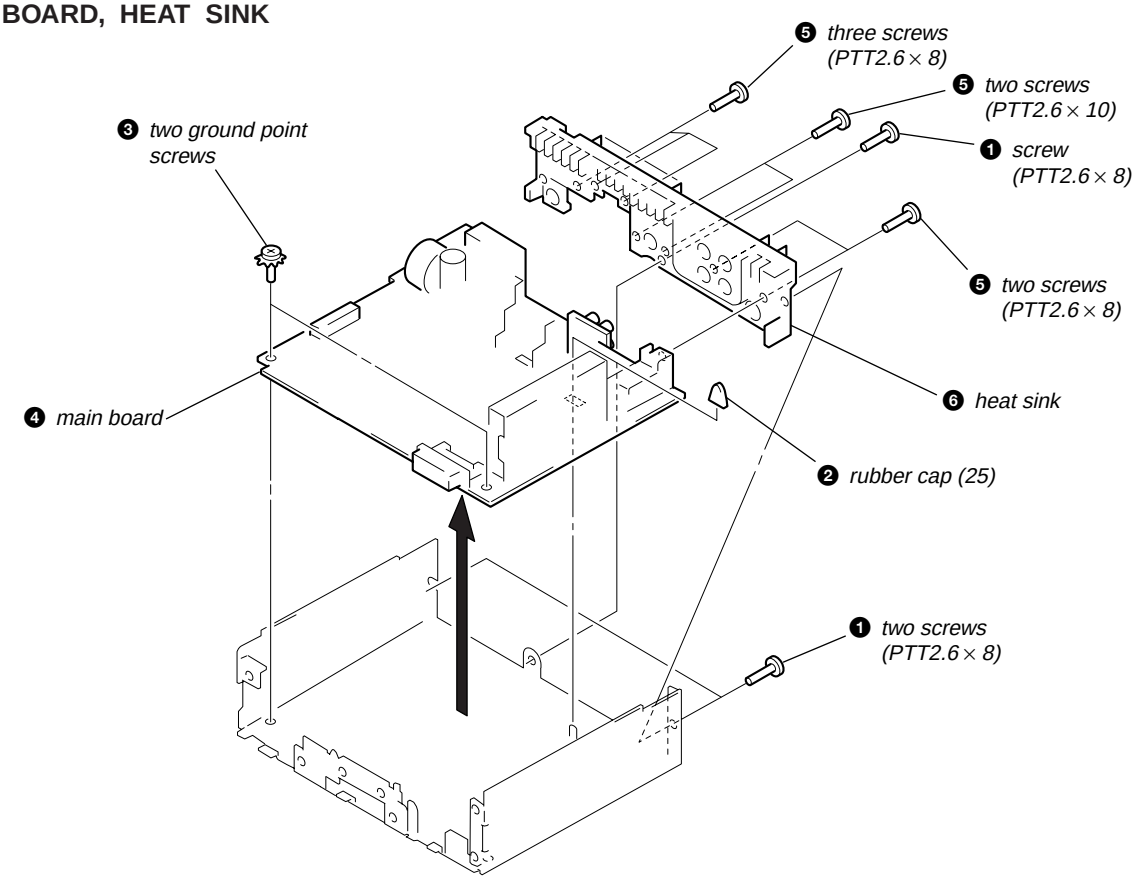
SECTION 2
DISASSEMBLY

Note: Follow the disassembly procedure in the numerical order given.

SUB PANEL, MECHANISM DECK (MG-25F-136)



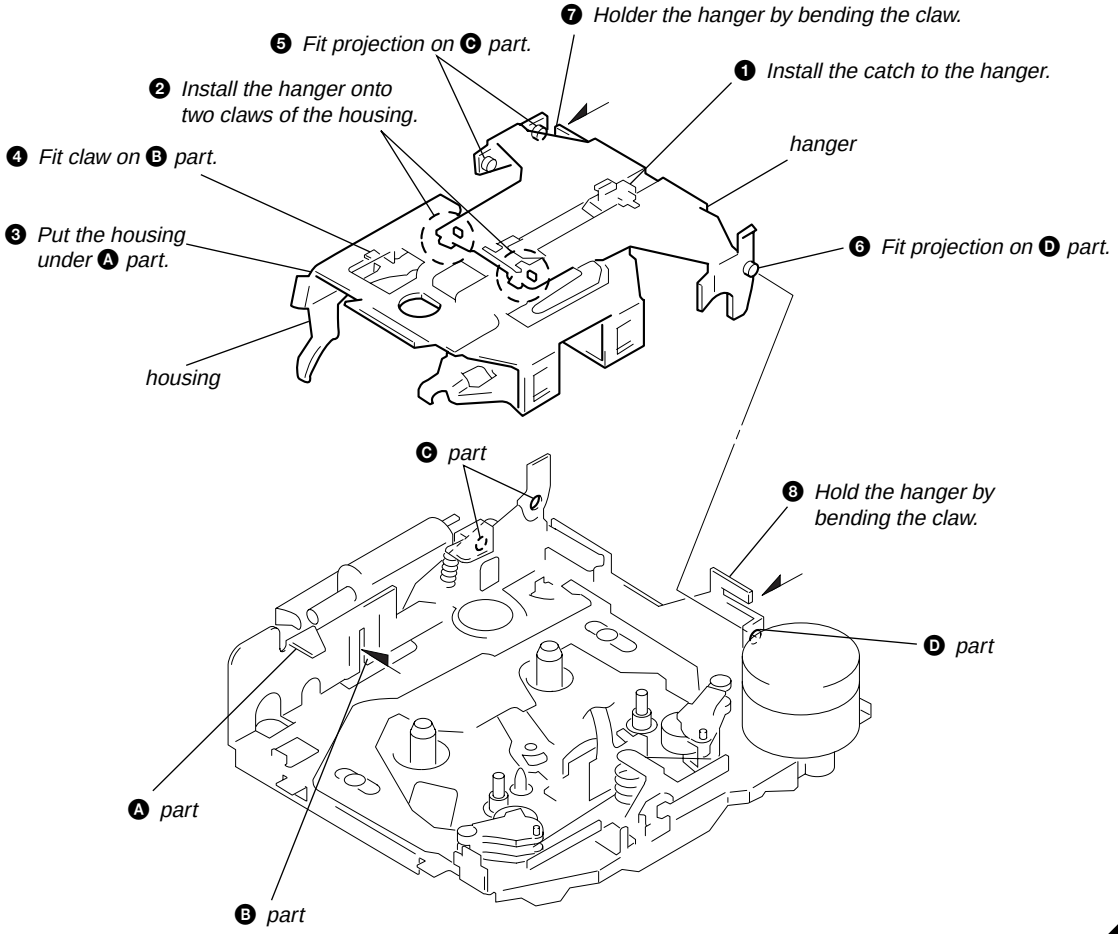
MAIN BOARD, HEAT SINK



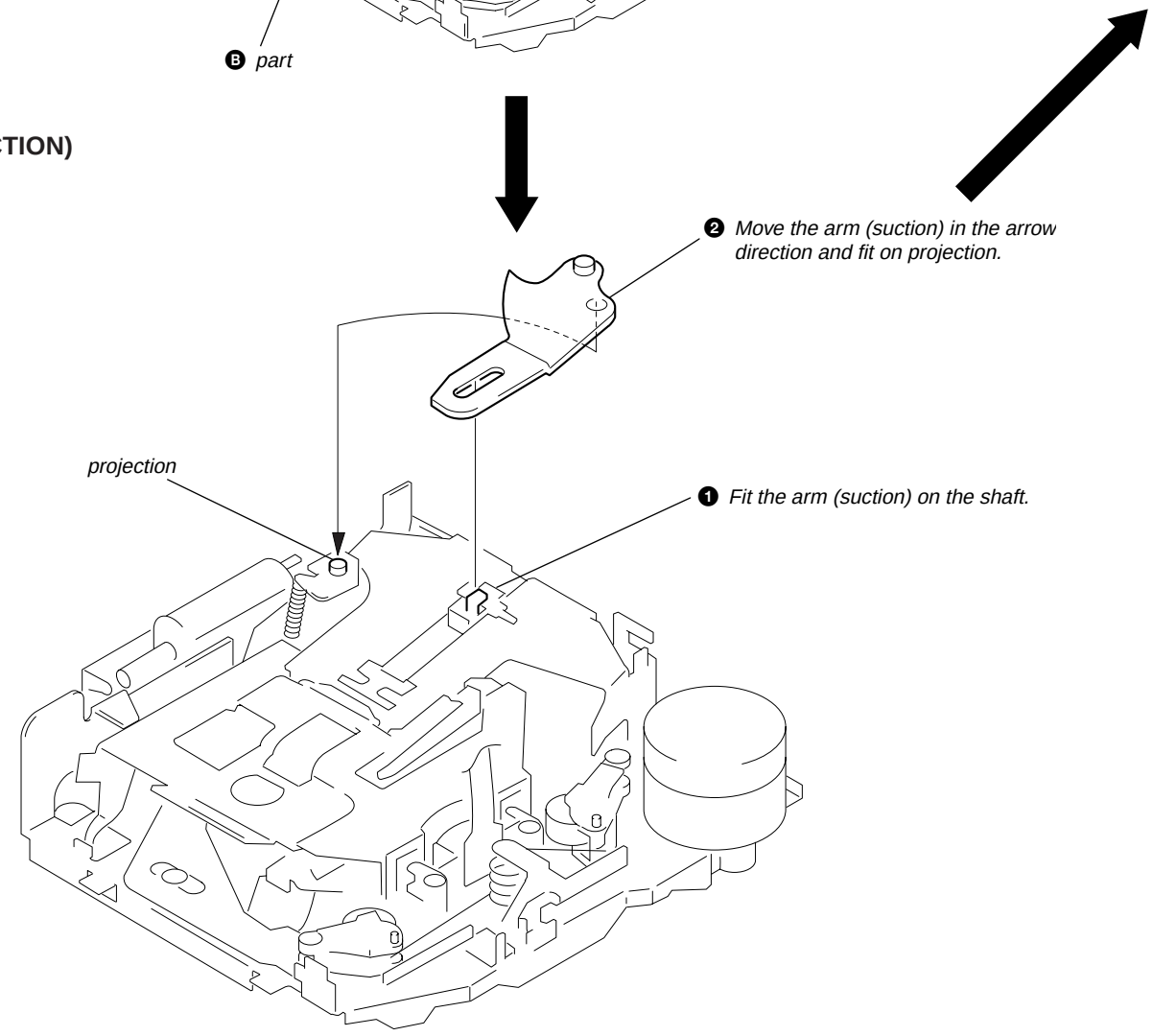
SECTION 3
ASSEMBLY OF MECHANISM DECK

Note: Follow the assembly procedure in the numerical order given.

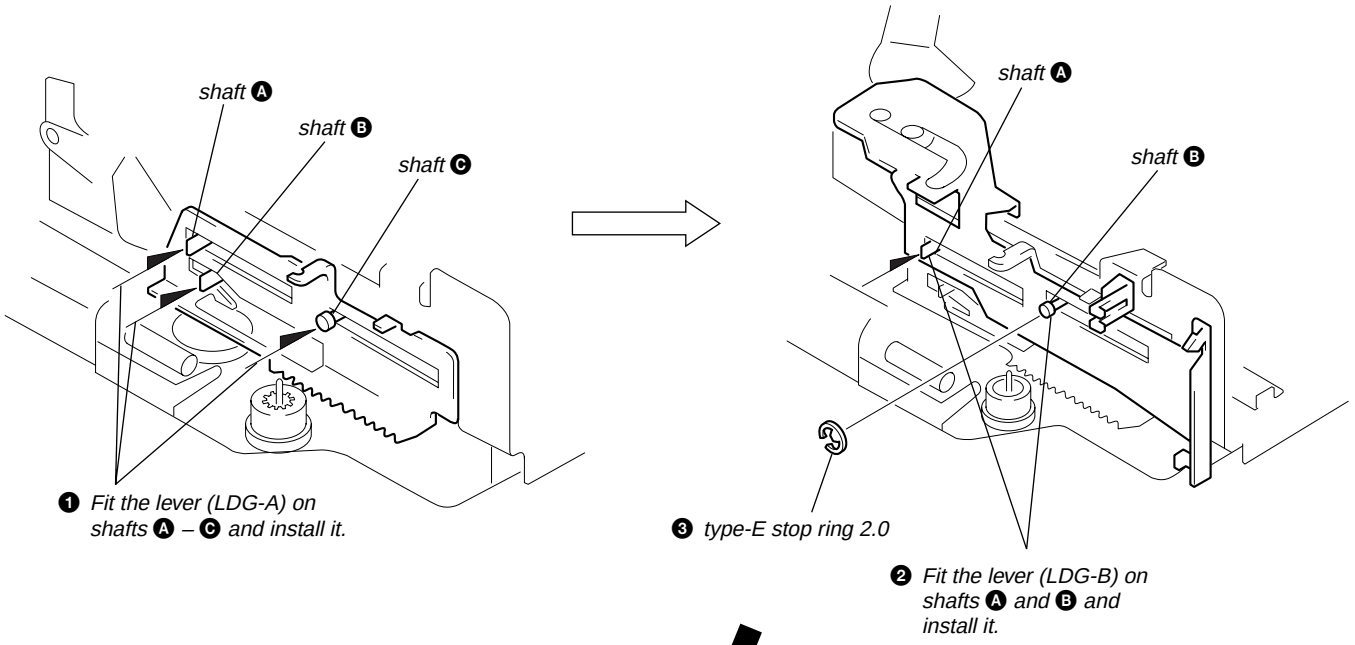
HOUSING


❼ Holder the hanger by bending the claw.
❺ Fit projection on Ⓒ part.
❶ Install the catch to the hanger.
❷ Install the hanger onto two claws of the housing.
hanger
❹ Fit claw on Ⓑ part.
❸ Put the housing under Ⓐ part.
❻ Fit projection on Ⓓ part.
housing
Ⓒ part
❽ Hold the hanger by bending the claw.
Ⓓ part
Ⓐ part
Ⓑ part

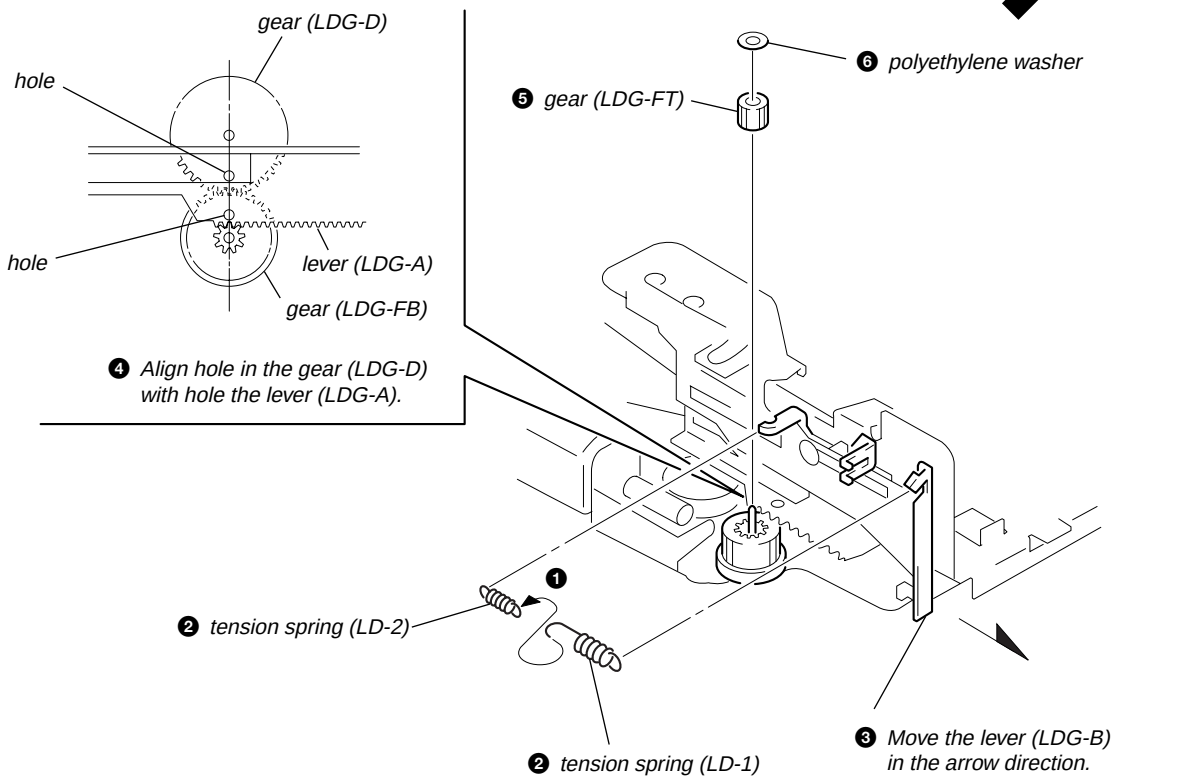
ARM (SUCTION)



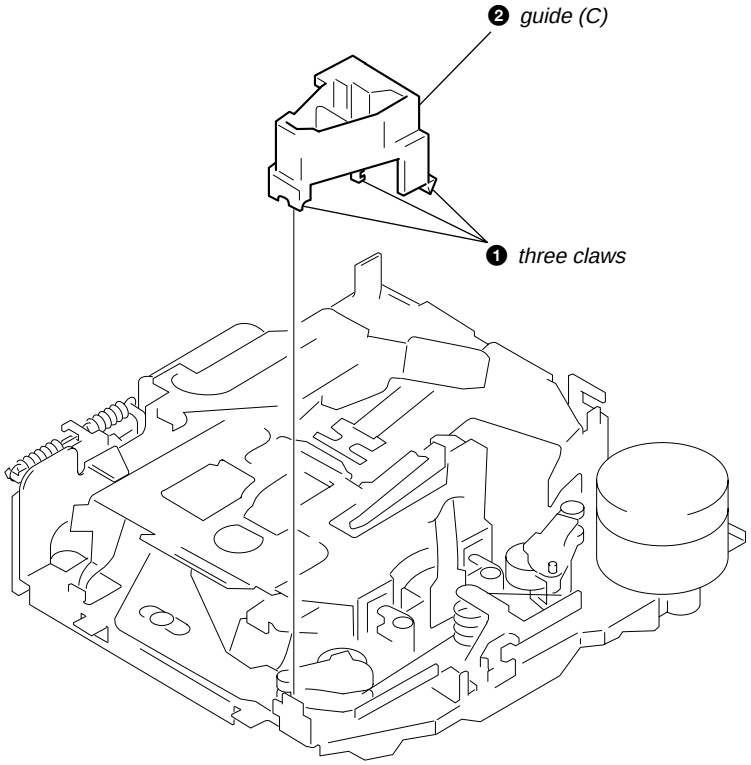
LEVER (LDG-A)/(LDG-B)


shaft Ⓐ
shaft Ⓑ
shaft Ⓒ
❶ Fit the lever (LDG-A) on shafts Ⓐ – Ⓒ and install it.
shaft Ⓐ
shaft Ⓑ
❸ type-E stop ring 2.0
❷ Fit the lever (LDG-B) on shafts Ⓐ and Ⓑ and install it.

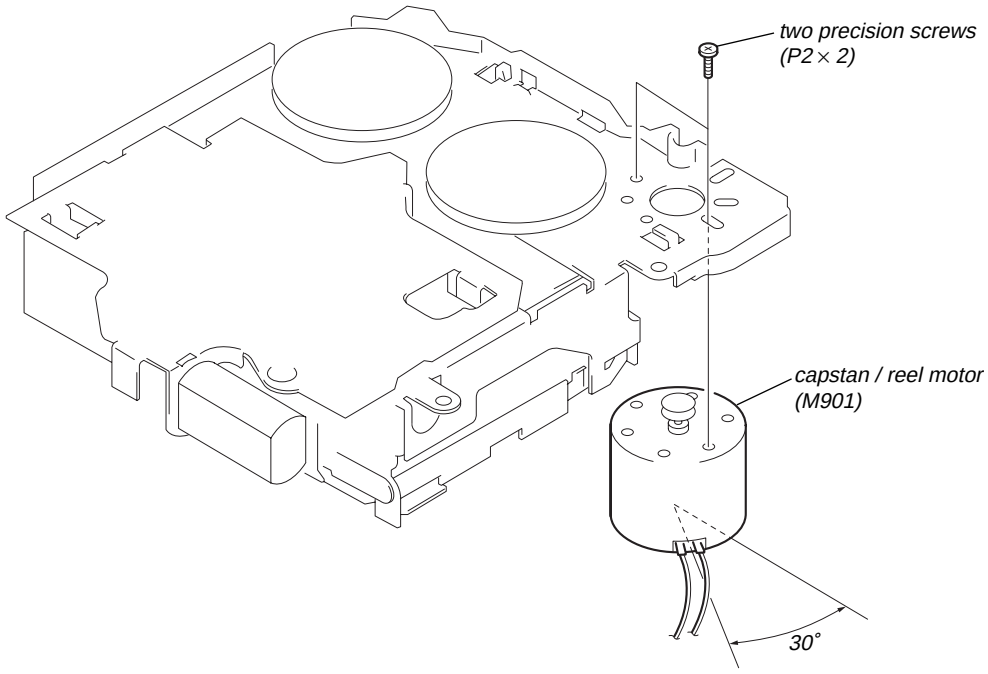
GEAR (LDG-FT)



GUIDE (C)



MOUNTING POSITION OF CAPSTAN/REEL MOTOR (M901)



SECTION 4
MECHANICAL ADJUSTMENTS

1. Clean the following parts with a denatured-alcohol-moistened swab:
   playback head pinch roller
   rubber belt capstan
   idlers
2. Demagnetize the playback head with a head demagnetizer.
3. Do not use a magnetized screwdriver for the adjustments.
4. After the adjustments, apply suitable locking compound to the parts adjusted.
5. The adjustments should be performed with the power supply voltage unless otherwise noted.

• Torque Measurement

Mode	Torque Meter	Meter Reading
Forward	CQ-102C	30 – 65 g•cm (0.42 – 0.90 oz•inch)
Forward Back Tension	CQ-102C	0.5 – 4.5 g•cm (0.01 – 0.06 oz•inch)
Reverse	CQ-102RC	30 – 65 g•cm (0.42 – 0.90 oz•inch)
Reverse Back Tension	CQ-102RC	0.5 – 4.5 g•cm (0.01 - 0.06 oz•inch)
FF, REW	CQ-201B	60 – 200 g•cm (0.83 – 2.78 oz•inch)

• Tape Tension Measurement

Mode	Tension Meter	Meter Reading
Forward	CQ-403A	more than 90 g (more than 3.18 oz)
Reverse	CQ-403R	more than 90 g (more than 3.18 oz)

SECTION 5
ELECTRICAL ADJUSTMENTS

TEST MODE

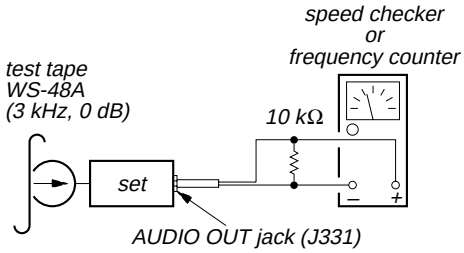
<Set the Test Mode>
1. Set the "power select" switch (S501) is "A (ON)" position.
2. Turn ON the regulated power supply. (All LEDs on the set lights up, and the clock is displayed)
   Note: Press the [OFF] button, if the clock is not displayed.
3. Push the preset [4] button.
4. Push the preset [5] button.
5. Press the preset [1] button for more than two seconds.
6. Then the display indicates all lights, the test mode is set.

<Release the Test mode>
1. Push the [OFF] button.
2. Return the "power select" switch (S501) to initially set position.

See the adjustment location from on page 14 for the adjustment.

TAPE DECK SECTION | 0 dB=0.775 V

Tape Speed Adjustment
Setting:



Procedure:
1. Put the set into the FWD PB mode.
2. Adjust adjustment resistor for inside capstan motor so that the reading on the speed checker or frequency counter becomes in specification.

Specification: Constant speed

Speed checker	Frequency counter
–1.5 to +2.5%	2,955 to 3,075 Hz

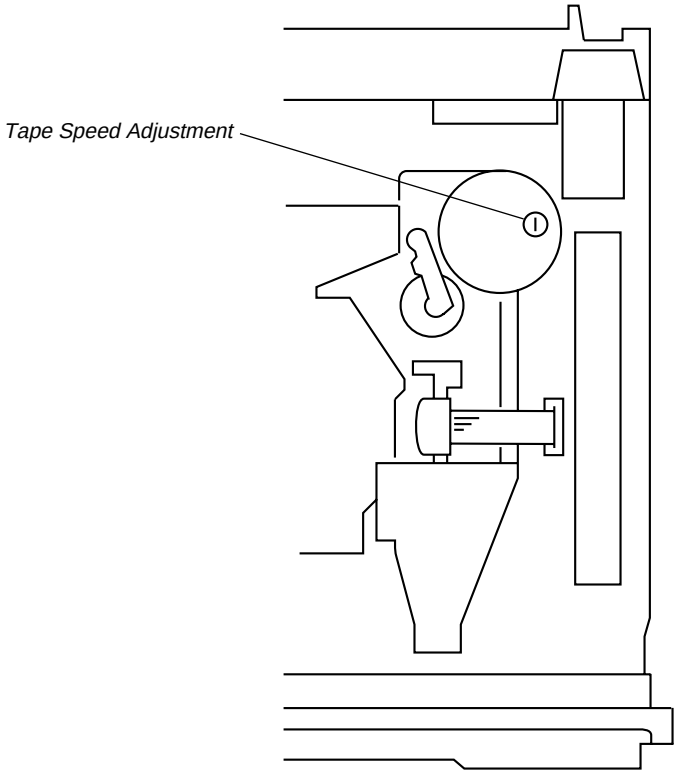
Adjustment Location: See page 14.

TUNER SECTION | 0 dB=1 µV

The tuner section has no adjustment.

Adjustment Location:

– SET UPPER VIEW –



SECTION 6
DIAGRAMS

6-1. NOTE FOR PRINTED WIRING BOARDS AND SCHEMATIC DIAGRAMS

Note on Printed Wiring Board:

- ⚬——— : parts extracted from the component side.
- ——— : parts extracted from the conductor side.
- ▒▒▒ : Pattern from the side which enables seeing.

(The other layers' patterns are not indicated.)

Caution:	
Pattern face side: (Conductor Side)	Parts on the pattern face side seen from the pattern face are indicated.
Parts face side: (Component Side)	Parts on the parts face side seen from the parts face are indicated.

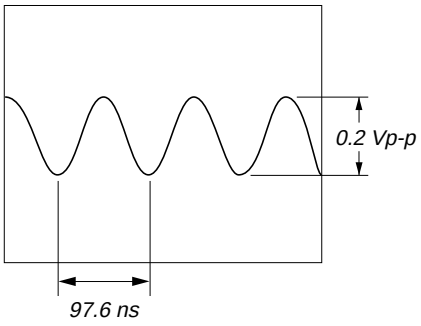
Note on Schematic Diagram:

- All capacitors are in µF unless otherwise noted. pF: µµF 50 WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and 1/4 W or less unless otherwise specified.
- ▭ : panel designation.
- B+ : B+ Line.
- Power voltage is dc 14.4V and fed with regulated dc power supply from ACC and BATT cords.
- Voltages and waveforms are dc with respect to ground under no-signal (detuned) conditions.
  no mark : FM
  ( ) : AM
  ⟨⟨ ⟩⟩ : TAPE PLAYBACK
  ∗ : Impossible to measure
- Voltages are taken with a VOM (Input impedance 10 MΩ). Voltage variations may be noted due to normal production tolerances.
- Waveforms are taken with a oscilloscope. Voltage variations may be noted due to normal production tolerances.
- Circled numbers refer to waveforms.
- Signal path.
  ⇨ : FM
  ➡ : AM
  Σ : TAPE PLAYBACK
  ⇨ : BUS AUDIO IN

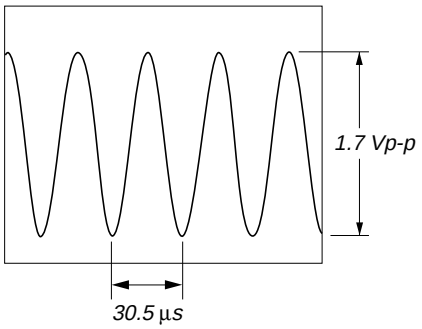
• **Waveforms**

– MAIN Board –

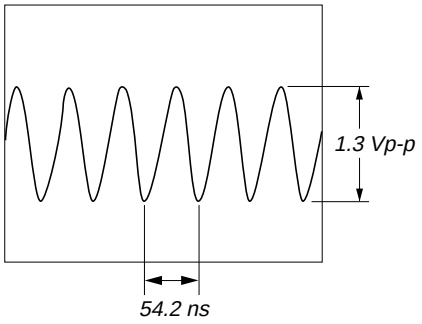
❶ IC21 ① (XT OUT)



❷ IC501 ⑮ (XT IN)

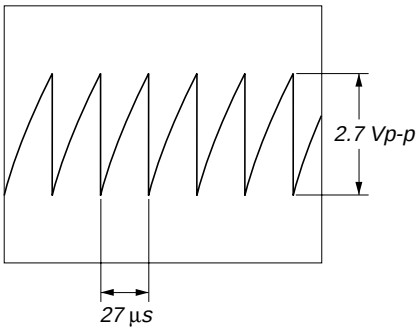


❸ IC501 ⑬ (OSC IN)

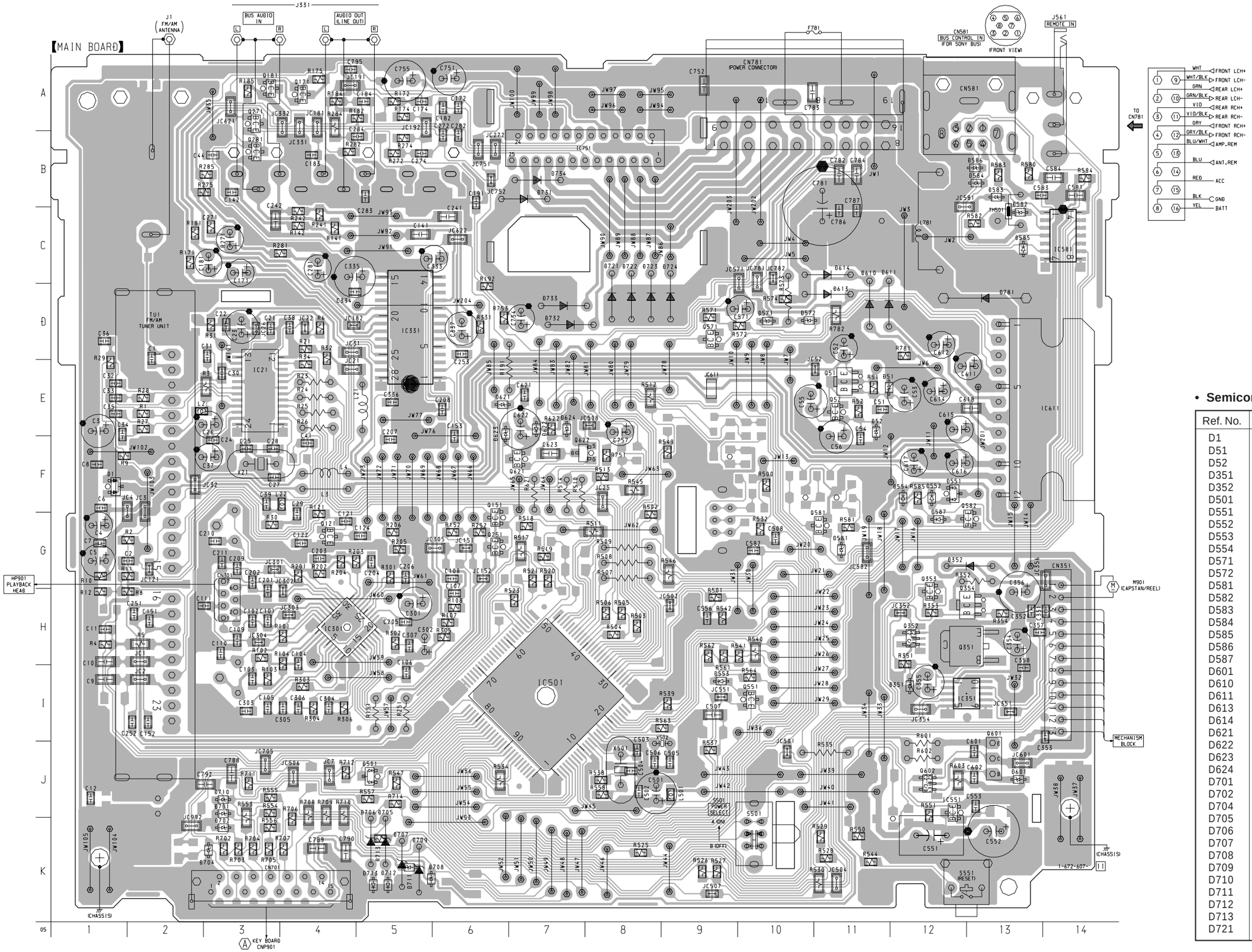


– KEY Board –

❶ IC901 ⑥⓪ OSC



6-2. PRINTED WIRING BOARD – MAIN Board –

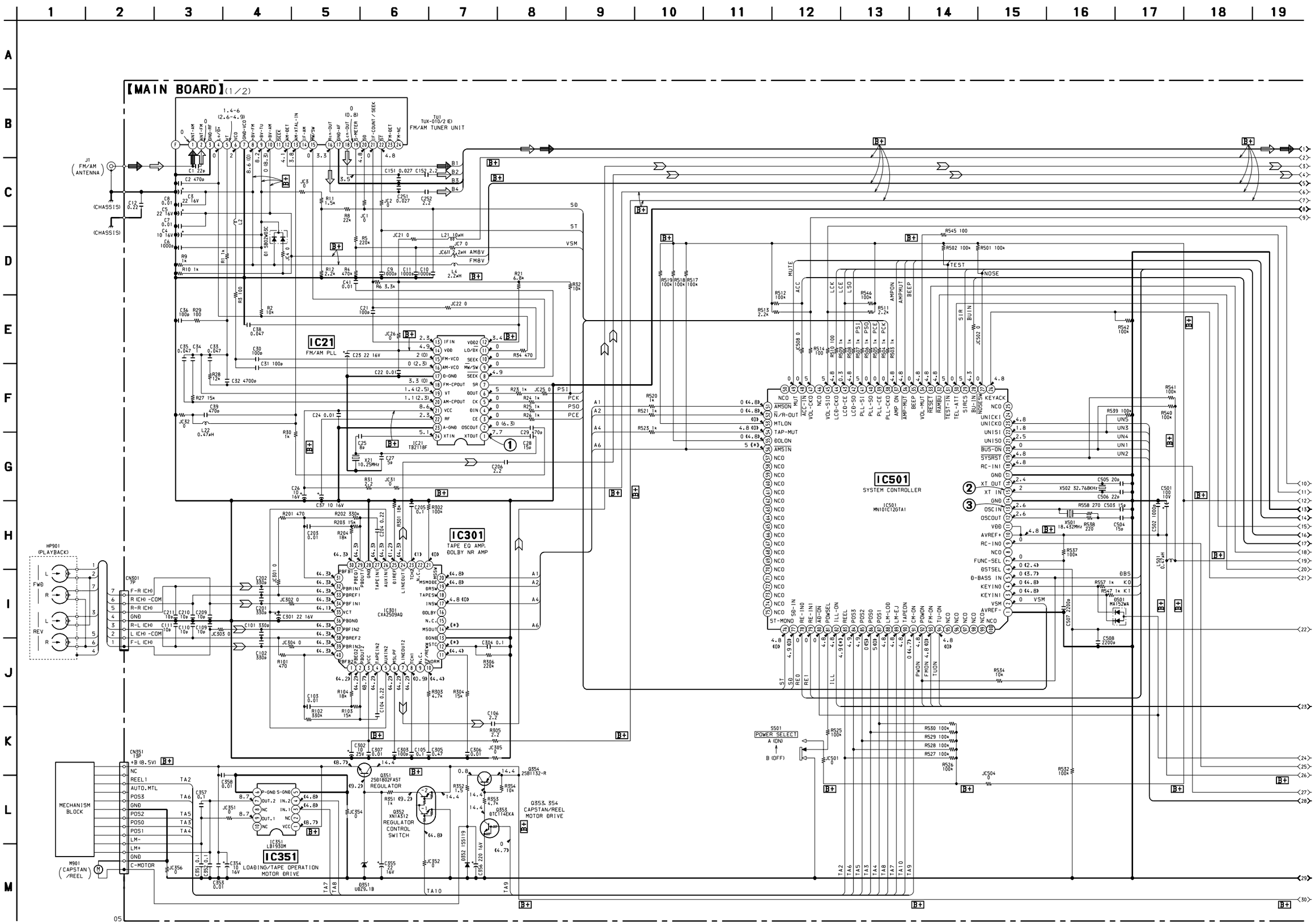


- **Semiconductor Location**

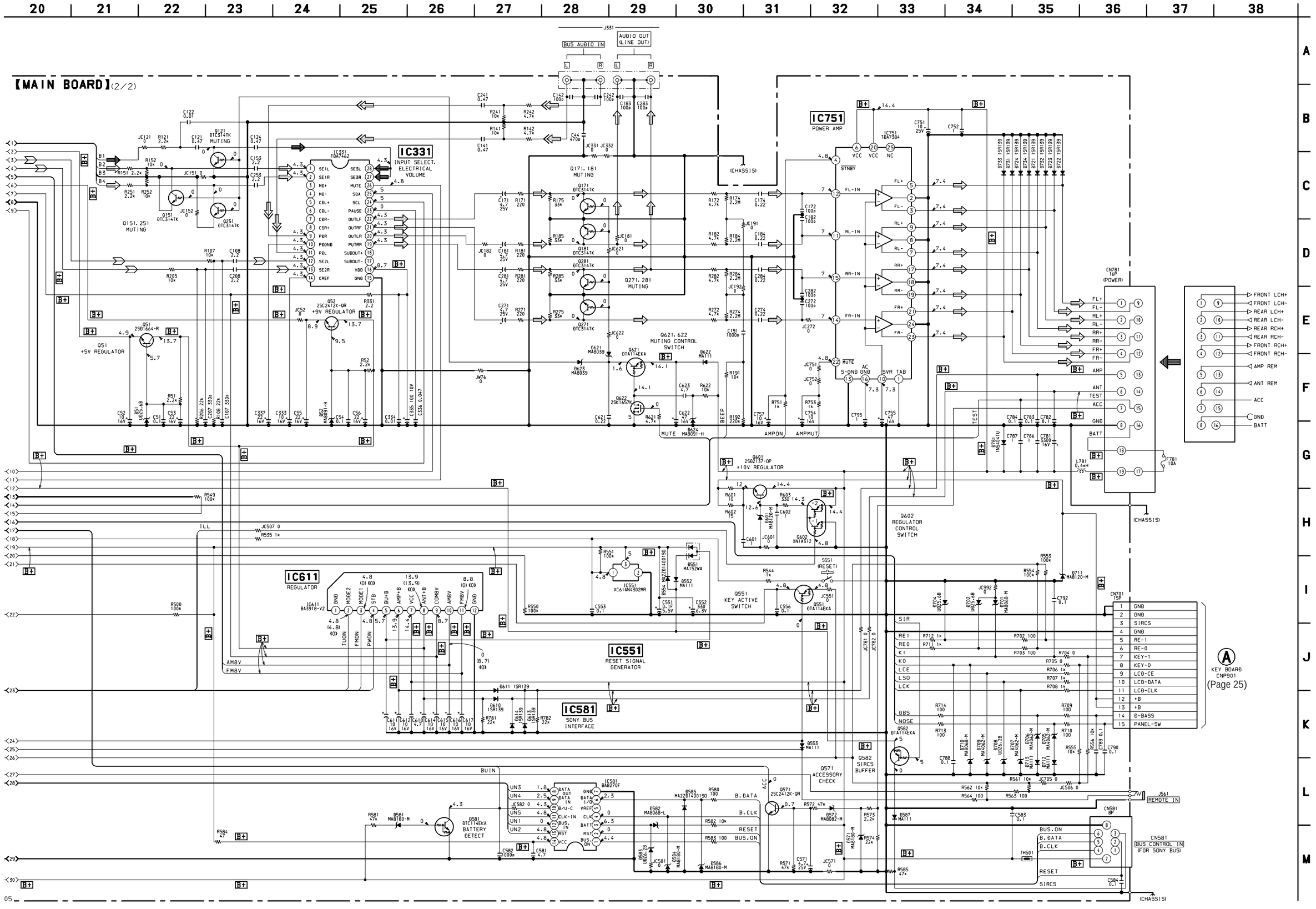
Ref. No.	Location	Ref. No.	Location
D1	F-1	D722	D-8
D51	E-11	D723	D-8
D52	E-11	D724	D-9
D351	I-12	D731	B-7
D352	G-13	D732	D-7
D501	J-5	D733	D-7
D551	F-12	D734	B-7
D552	F-12	D781	D-13
D553	I-9		
D554	F-12	IC21	E-3
D571	D-10	IC301	H-4
D572	D-10	IC331	E-5
D581	G-11	IC351	I-12
D582	C-13	IC501	I-7
D583	B-13	IC551	J-12
D584	B-13	IC581	C-14
D585	C-13	IC611	D-13
D586	B-13	IC751	B-7
D587	G-12		
D601	J-13	Q51	E-11
D610	D-11	Q52	E-11
D611	D-11	Q121	G-4
D613	D-11	Q151	G-6
D614	C-11	Q171	A-4
D621	E-6	Q181	A-3
D622	E-7	Q251	G-6
D623	E-6	Q271	A-3
D624	E-7	Q281	B-3
D701	J-3	Q351	H-12
D702	K-3	Q352	H-12
D704	K-3	Q353	H-12
D705	K-5	Q354	H-13
D706	K-5	Q551	I-10
D707	K-5	Q571	D-9
D708	K-5	Q581	G-11
D709	K-5	Q582	G-13
D710	J-3	Q601	J-13
D711	K-5	Q602	J-12
D712	K-5	Q621	F-7
D713	K-5	Q622	F-7
D721	D-8		

6-3. SCHEMATIC DIAGRAM – MAIN Board (1/2) –

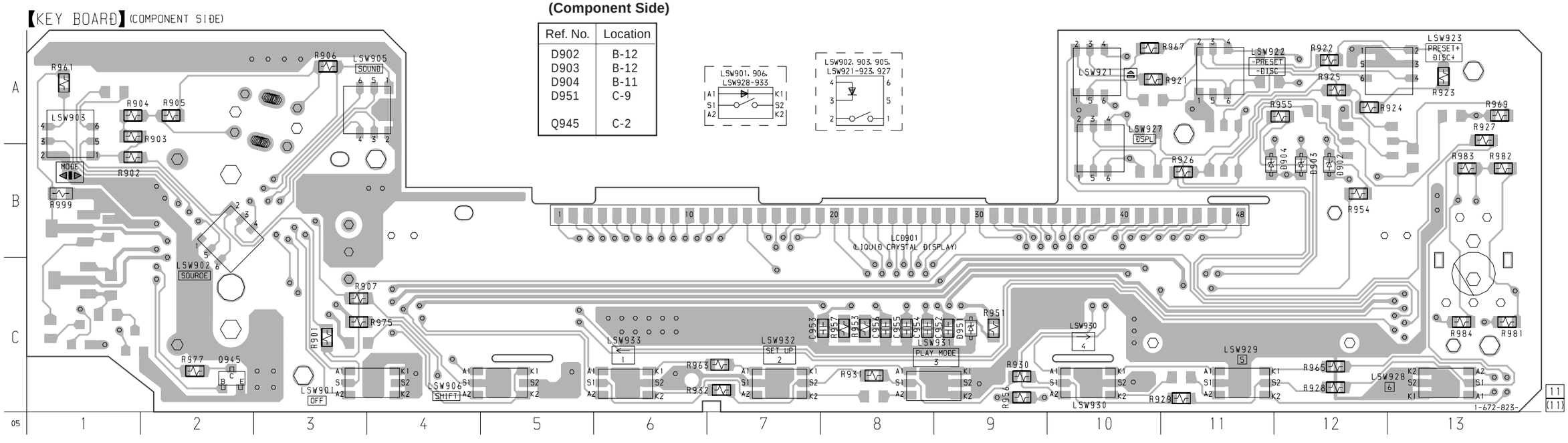
• See page 16 for Waveforms. • See page 27 for IC Block Diagrams.



6-4. SCHEMATIC DIAGRAM – MAIN Board (2/2) – • See page 28 for IC Block Diagrams.

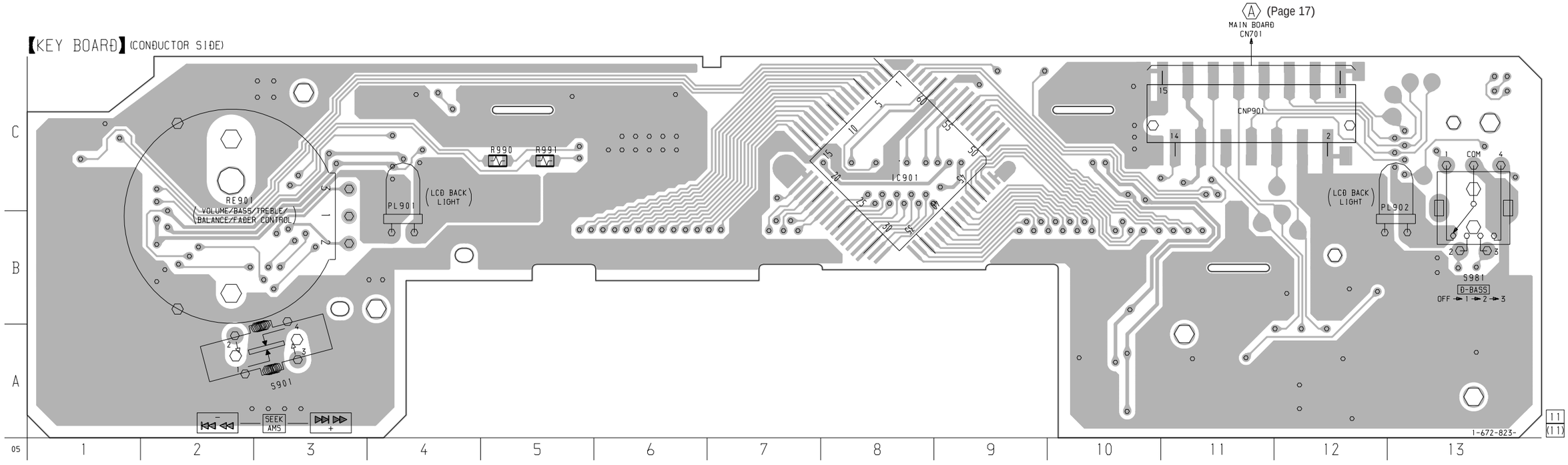


6-5. PRINTED WIRING BOARD – KEY Board –



- **Semiconductor Location (Component Side)**

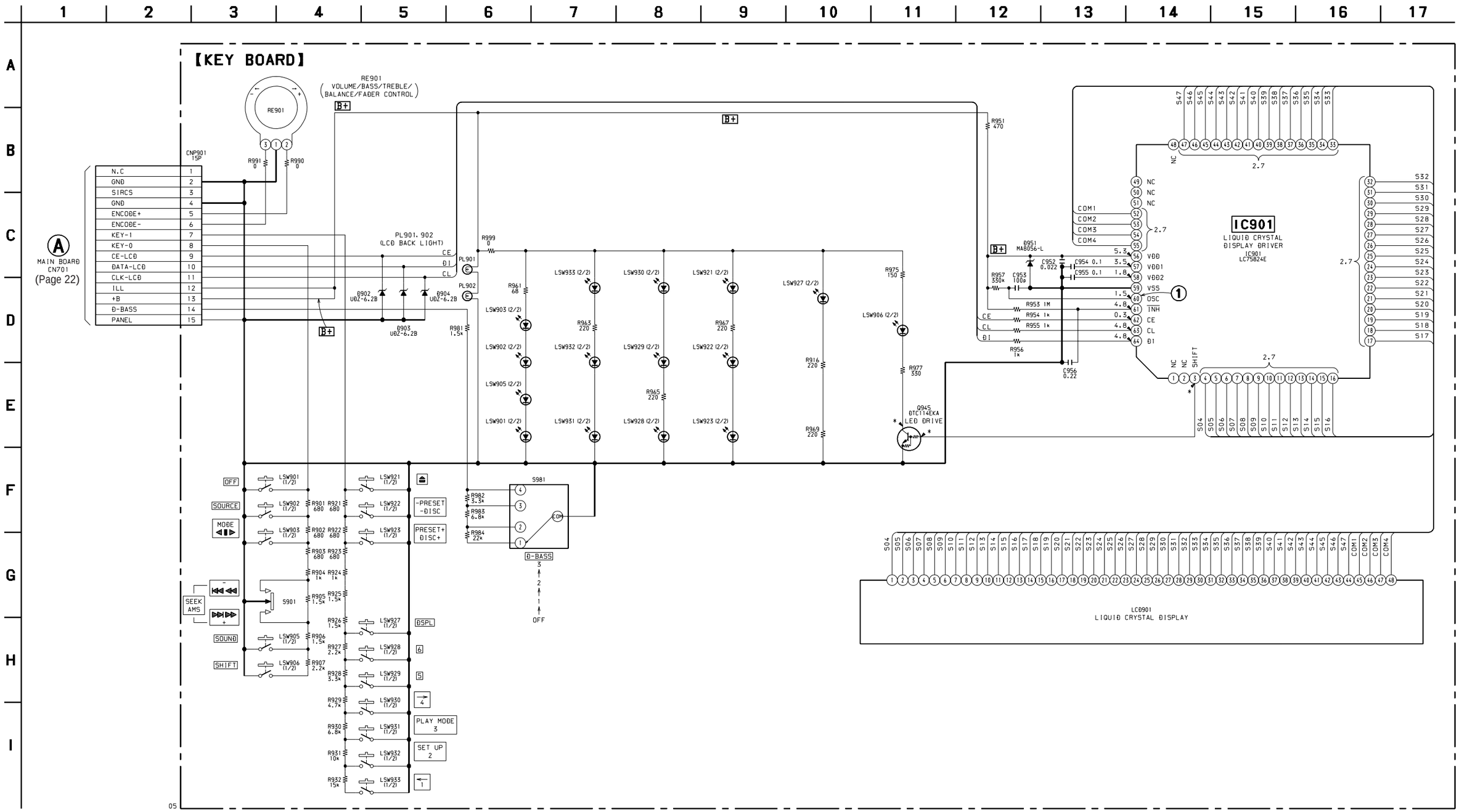
Ref. No.	Location
D902	B-12
D903	B-12
D904	B-11
D951	C-9
Q945	C-2



- **Semiconductor Location (Conductor Side)**

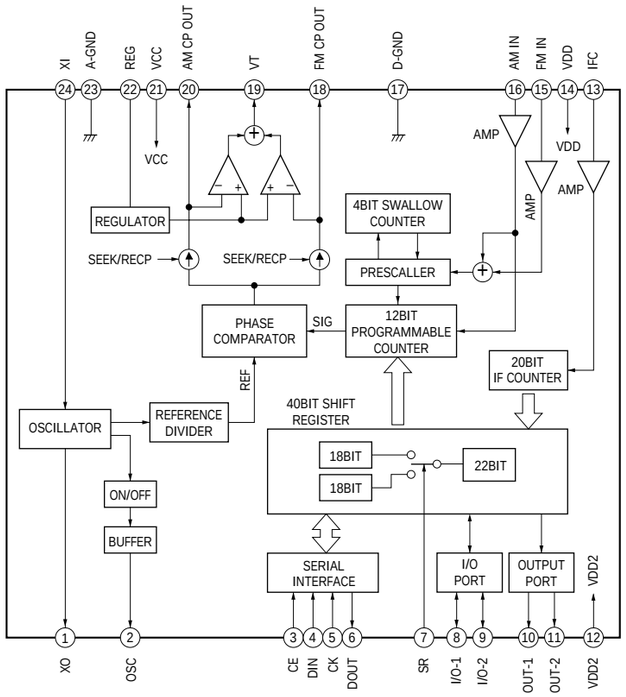
Ref. No.	Location
IC901	C-8

6-6. SCHEMATIC DIAGRAM – KEY Board – • See page 16 for Waveform.

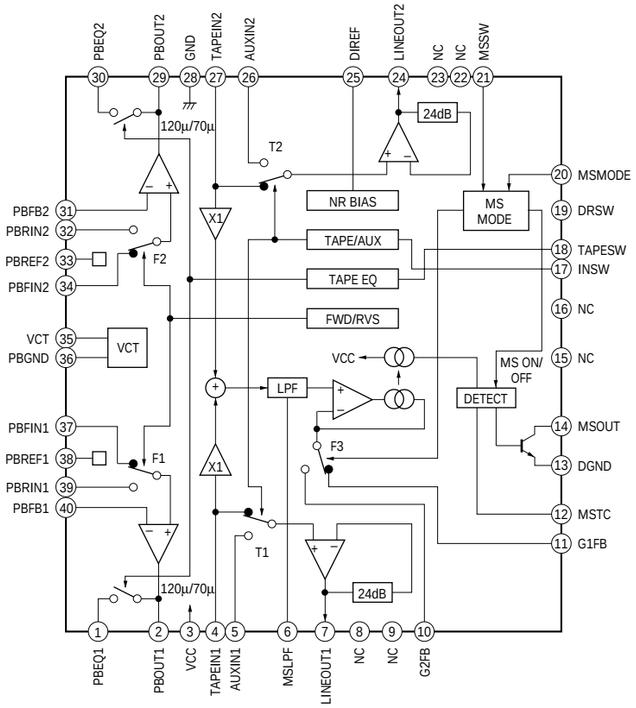


• **IC Block Diagrams**
– MAIN Board –

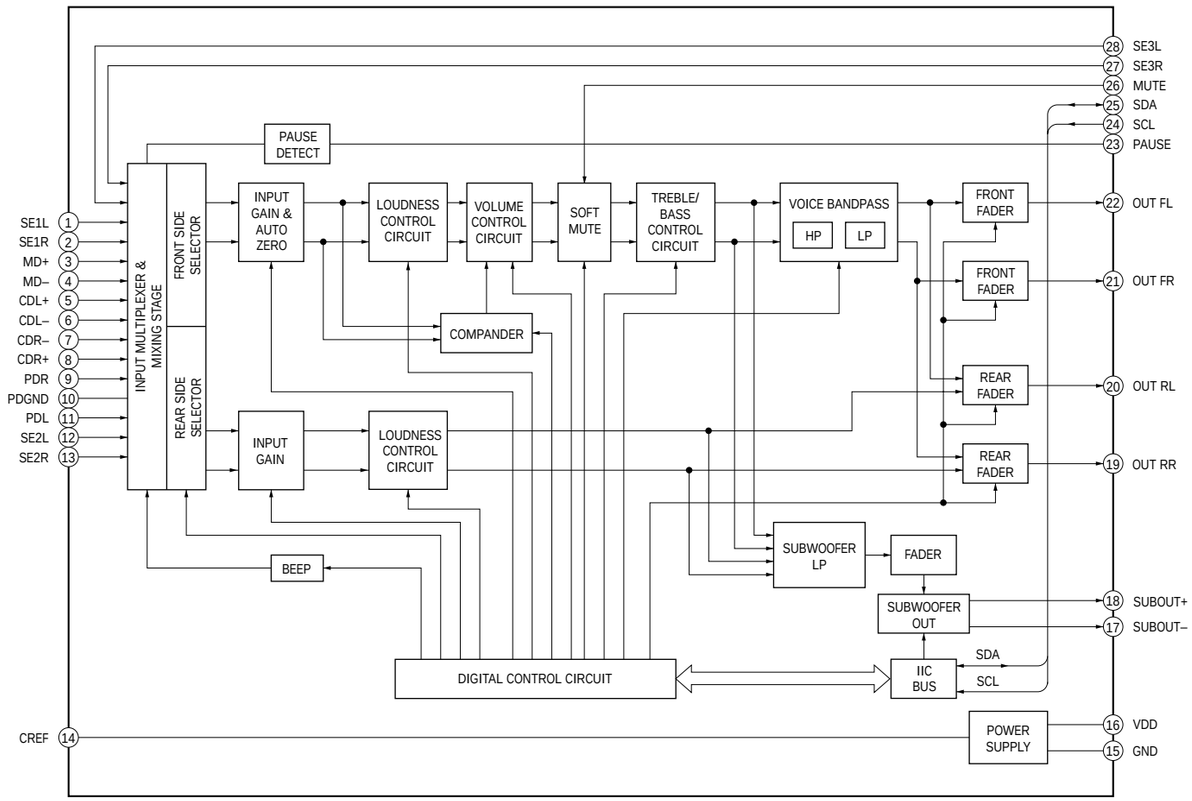
IC21 TB2118F-EL-S



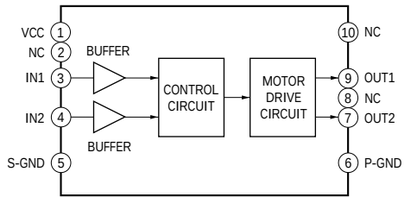
IC301 CXA2509AQ-T4



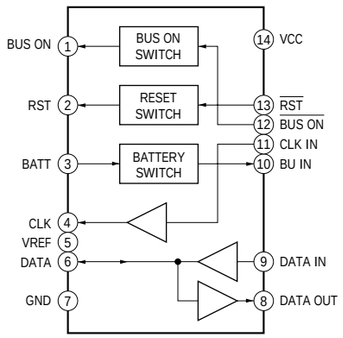
IC331 TDA7462D



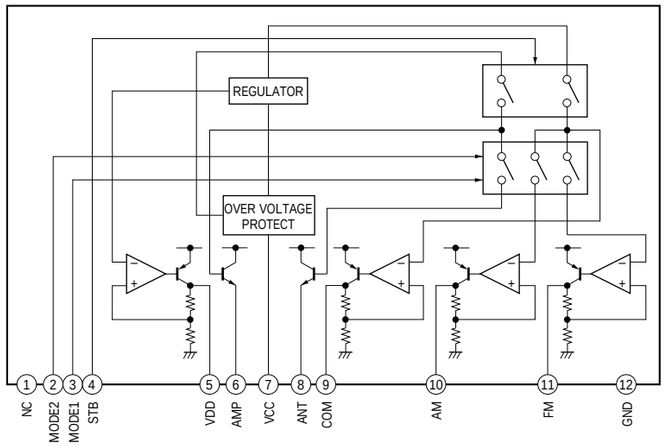
IC351 LB1930M-TLM



IC581 BA8270F-E2



IC611 BA3918-V2



6-7. IC PIN FUNCTION DESCRIPTION

• MAIN BOARD IC501 MN101C12GTA1 (SYSTEM CONTROLLER)

Pin No.	Pin Name	I/O	Function
1	AVREF–	I	Reference voltage (0V) input terminal (for A/D converter)
2	VSM	I	FM and AM signal meter voltage detection input from the FM/AM tuner unit (TU1) (A/D input)
3	KEYIN1	I	Key input terminal (A/D input) (LSW921 to LSW923, LSW927 to LSW933) ⏏, PRESET DISC –/+, DSPL, 6, 5, 4 →, 3 PLAY MODE, 2 SET UP, 1 ← keys input
4	KEYIN0	I	Key input terminal (A/D input) (LSW901 to LSW903, S901, LSW905, LSW906) OFF, SOURCE, MODE ◀II▶, SEEK/AMS I◀◀ ◀◀ – ▶▶I ▶▶ +, SOUND, SHIFT keys input
5	D-BASS IN	I	D-BASS switch (S981) input terminal (A/D input)
6	DSTSEL	I	Destination setting terminal (fixed at center voltage in this set)
7	FUNC-SEL	I	Setting terminal for the function select (fixed at "H" in this set)
8	NCO	O	Not used (open)
9	RC-IN0	I	Rotary remote commander key input terminal (A/D input)
10	AVREF+	I	Reference voltage (+5V) input terminal (for A/D converter)
11	VDD	—	Power supply terminal (+5V)
12	OSC OUT	O	Main system clock output terminal (18.432 MHz)
13	OSC IN	I	Main system clock input terminal (18.432 MHz)
14	GND	—	Ground terminal
15	XT IN	I	Sub system clock input terminal (32.768 kHz)
16	XT OUT	O	Sub system clock output terminal (32.768 kHz)
17	GND	—	Ground terminal
18	RC-IN1	I	Rotary remote commander shift key input terminal "L": shift
19	$\overline{\text{SYSRST}}$	O	Reset signal output to the SONY bus interface (IC581) "L": reset
20	$\overline{\text{BUS-ON}}$	O	Bus on/off control signal output to the SONY bus interface (IC581) "L": bus on
21	UNISO	O	Serial data output to the SONY bus interface (IC581)
22	UNISI	I	Serial data input from the SONY bus interface (IC581)
23	UNICKO	O	Serial data transfer clock signal output to the SONY bus interface (IC581)
24	UNICKI	I	Serial data reading clock signal input for the SONY bus interface Not used (open)
25	NCO	O	Not used (open)
26	KEYACK	I	Input of acknowledge signal for the key entry Acknowledge signal is input to accept function and eject keys in the power off status On at input of "H"
27	$\overline{\text{NOSESW}}$	I	Front panel block remove/attach detection signal input terminal "L": front panel is attached
28	BU-IN	I	Battery detect signal input from the SONY bus interface (IC581) and battery detect circuit "L" is input at low voltage
29	SIRCS	I	Sircs remote control signal input terminal Not used (fixed at "L")
30	TEL-ATT	I	Telephone muting signal input terminal At input of "H", the signal is attenuated by –20 dB Not used (fixed at "L")
31	$\overline{\text{TEST-IN}}$	I	Setting terminal for the test mode "L": test mode, Normally: fixed at "H"
32	$\overline{\text{RAMBU}}$	I	Internal RAM reset detection signal input terminal Input terminal to check that RAM data are not destroyed due to low voltage This checking is made within 100 msec after reset Fixed at "L" in this set
33	$\overline{\text{RESET}}$	I	System reset signal input from the reset signal generator (IC551) and reset switch (S551) "L": reset "L" is input for several 100 msec after power on, then it changes to "H"
34	VOL-MUT	O	Muting control signal output to the electrical volume (IC331) Volume minimum: "∞" output ("H" active)
35	BEEP	O	Beep sound drive signal output terminal

Pin No.	Pin Name	I/O	Function
36	$\overline{\text{AMP-MUT}}$	O	Muting on/off control signal output to the power amplifier (IC751) "L": muting on
37	AMP ON	O	Standby on/off control signal output to the power amplifier (IC751) "L": standby mode, "H": amp on
38	PLL-CKO	O	PLL serial data transfer clock signal output to the FM/AM PLL (IC21)
39	PLL-CE	O	PLL chip enable signal output to the FM/AM PLL (IC21) "H" active
40	PLL-SO	O	PLL serial data output to the FM/AM PLL (IC21)
41	PLL-SI	I	PLL serial data input from the FM/AM PLL (IC21)
42	LCD-SO	O	Serial data output to the liquid crystal display driver (IC901)
43	LCD-CE	O	Chip enable signal output to the liquid crystal display driver (IC901) "H" active
44	LCD-CKO	O	Serial data transfer clock signal output to the liquid crystal display driver (IC901)
45	VOL-SIO	I/O	Two-way data bus with the electrical volume (IC331)
46	NCO	O	Not used (open)
47	VOL-CKO	O	Bus clock signal output to the electrical volume (IC331)
48	$\overline{\text{ACC-IN}}$	I	Accessory detect signal input terminal "L": accessory on
49	MUT	O	Audio line muting on/off control signal output terminal "H": muting on
50	NCO	O	Not used (open)
51	$\overline{\text{AMSON}}$	O	Tape auto music sensor control signal output to the CXA2509AQ (IC301) "L" is output to lower the gain for audio level at FF/REW mode
52	$\overline{\text{N}}$/R-OUT	O	Forward/reverse direction control signal output to the CXA2509AQ (IC301) "L": forward direction, "H": reverse direction
53	MTLON	I/O	METAL control in/out terminal At initial mode: valid/invalid selection input of METAL function (valid at "L" input) At normal mode: METAL on/off control signal output terminal (METAL on at "H" output) Not used this function (fixed at "H")
54	TAPE-MUT	O	Tape muting on/off control signal output to the CXA2509AQ (IC301) "H": muting on Active at ATA, FF/REW mode
55	DOLON	I/O	Dolby control in/out terminal At initial mode: valid/invalid selection input of dolby function (valid at "L" input) At normal mode: dolby on/off control signal output terminal (dolby on at "H" output) Not used this function (fixed at "H")
56	$\overline{\text{AMSIN}}$	I	Whether a music is present or not from CXA2509AQ (IC301) is detected at auto music sensor "L": music is present, "H": music is not present
57 to 75	NCO	O	Not used (open)
76	ST-MONO	I/O	FM stereo broadcasting detection signal input from the FM/AM tuner unit (TU1), or forced monaural control signal output to the FM/AM tuner unit (TU1) "L" is input in the FM stereo mode, or "L" is output in the forced monaural mode
77	SD-IN	I	Station detector detect input from the FM/AM tuner unit (TU1) Stop level for SEEK, BTM, etc. is determined SD is present at input of "H"
78	RE-IN0	I	Dial pulse input of the rotary encoder (RE900) (for VOLUME/BASS/TREBLE/BALANCE/FADER control)
79	RE-IN1	I	
80	$\overline{\text{AD-ON}}$	O	A/D converter power control signal output terminal When the KEYACK (pin ㉖) that controls reference voltage power for key A/D conversion input is active, "L" is output from this terminal to enable the input
81	POWSEL	I	Power select switch (S501) input terminal "L": off (halt mode), "H": on (operation mode)
82	ILL-ON	O	Power on/off control signal output of the illumination LED and liquid crystal display driver (IC901) "H": power on Depends on initial setting of power select switch (S501) Power select switch (S501) on: "H" output at the accessory on Power select switch (S501) off: "H" output at the power on
83	REEL	I	Rotation detect signal input from supply reel sensor and take-up reel sensor on the deck mechanism

Pin No.	Pin Name	I/O	Function
84	POS3	I	Tape position (EJECT/FF/REW/ REV/FWD mode) detect input from the tape operation switch on the deck mechanism POS3: "L": REV and EJECT mode, "H": others mode POS2: "L": REW mode, "H": others mode POS0: "L": EJECT mode, "H": others mode POS1: "L": FF and FWD mode, "H": others mode
85	POS2	I	
86	POS0	I	
87	POS1	I	
88	LM-LOD	O	Motor drive signal output to the loading/tape operation motor drive (IC351) "H" active (For the loading direction and forward side operation) *1
89	LM-EJ	O	Motor drive signal output to the loading/tape operation motor drive (IC351) "H" active (For the eject direction and reverse side operation) *1
90	TAPEON	O	Tape system power supply on/off control signal output terminal "H": tape on
91	CM-ON	O	Capstan/reel motor (M901) drive signal output terminal "H": motor on
92	POWON	O	Main system power supply on/off control signal output to the BA3918 (IC611) "H": power on
93	FM-ON	O	FM system power supply on/off control signal output to the BA3918 (IC611) "L": AM power on, "H": FM power on
94	TU-ON	O	Tuner system power supply on/off control signal output to the BA3918 (IC611) "H": tuner power on
95 to 100	NCO	O	Not used (open)

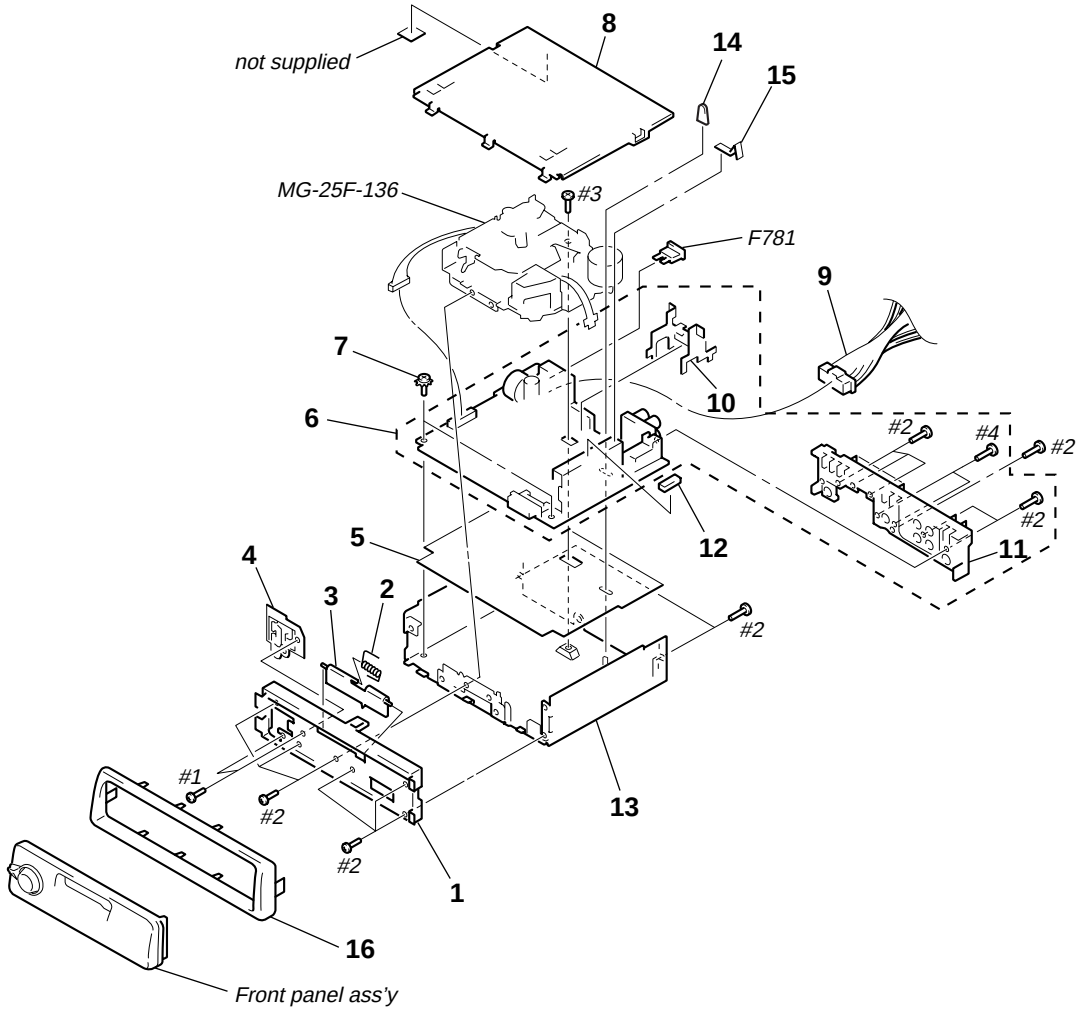
*1 Loading/tape operation motor control

Mode / Terminal	STOP	LOADING/ FORWARD	EJECT/ REVERSE	BRAKE
LM-LOD (pin ⑧⑧)	"L"	"H"	"L"	"H"
LM-EJ (pin ⑧⑨)	"L"	"L"	"H"	"H"

SECTION 7
EXPLODED VIEWS

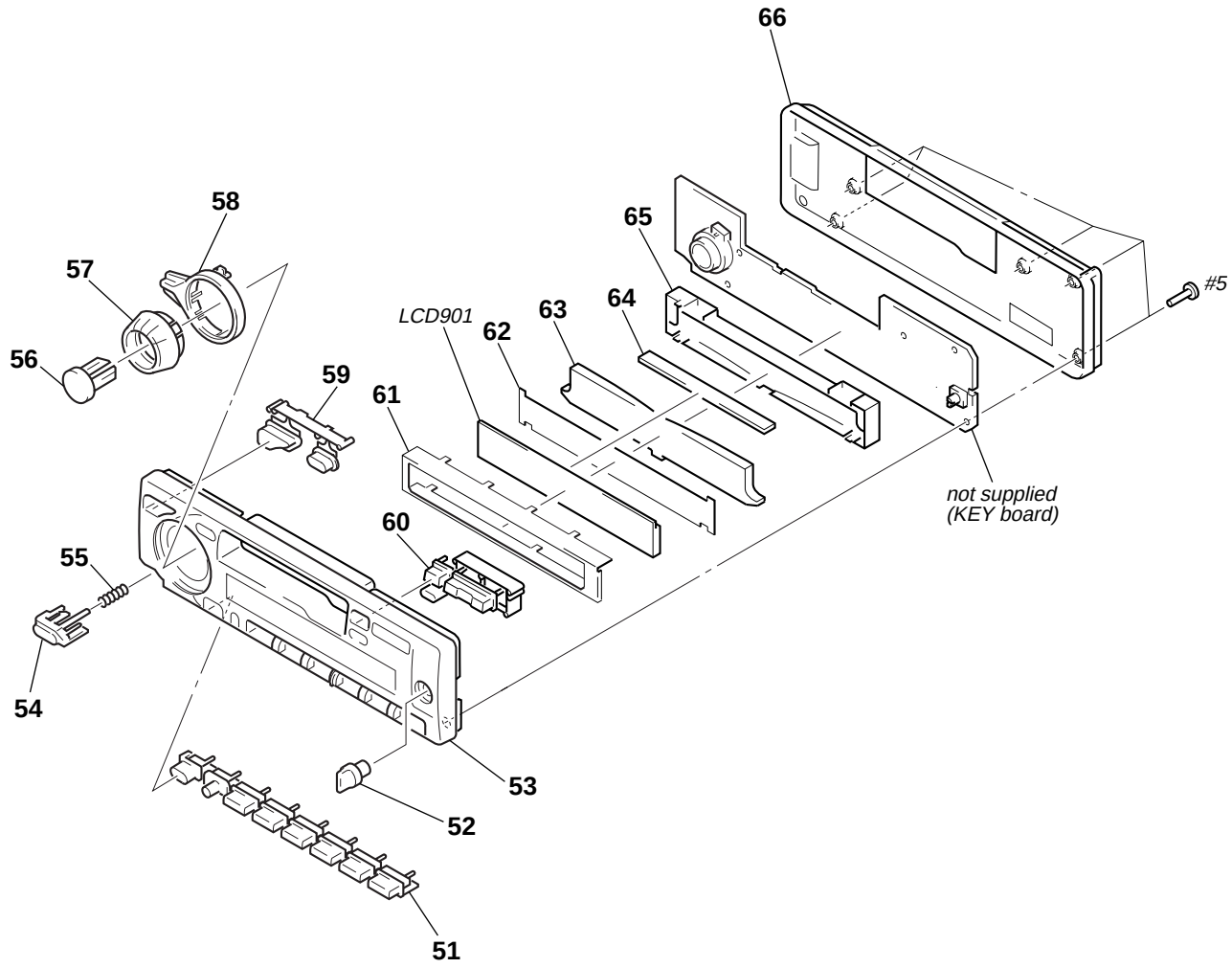
NOTE:
- -XX and -X mean standardized parts, so they may have some difference from the original one.
- Color Indication of Appearance Parts
  Example:
  KNOB, BALANCE (WHITE) . . . (RED)
  ↑ ↑
  Parts Color Cabinet's Color
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- The mechanical parts with no reference number in the exploded views are not supplied.
- Hardware (# mark) list and accessories and packing materials are given in the last of the electrical parts list.

(1) CHASSIS SECTION



Ref. No.	Part No.	Description	Remark
1	3-031-022-01	PANEL, SUB	
2	3-935-003-01	SPRING, TORSION	
3	3-027-437-21	DOOR, CASSETTE	
4	X-3367-636-1	LOCK ASSY	
* 5	3-033-846-01	INSULATED PLATE	
* 6	A-3317-384-A	MAIN BOARD, COMPLETE	
7	3-915-923-01	SCREW, GROUND POINT	
* 8	X-3373-270-1	COVER ASSY	
9	1-776-207-31	CORD (WITH CONNECTOR) (POWER)	
* 10	3-018-390-01	BRACKET (IC)	
* 11	3-031-023-11	HEAT SINK	
12	3-935-014-01	CUSHION (U)	
* 13	3-009-813-41	CHASSIS	
14	3-012-859-01	CAP (25), RUBBER	
15	3-937-650-01	PLATE (C), GROUND	
16	3-018-384-01	COLLAR	
F781	1-532-877-11	FUSE (BLADE TYPE) (AUTO FUSE) (10A)	

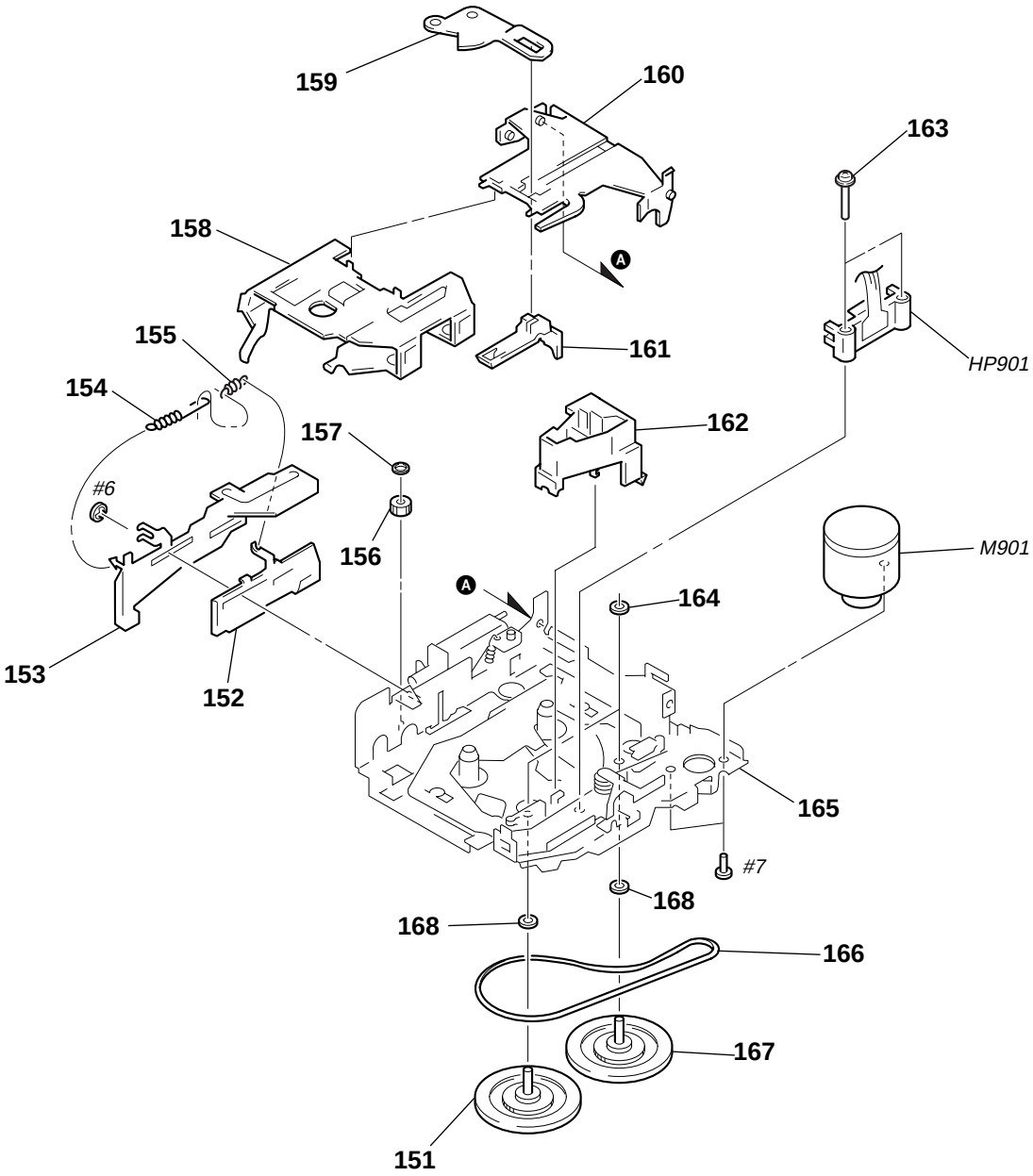
(2) FRONT PANEL SECTION



Ref. No.	Part No.	Description	Remark
51	3-030-835-01	BUTTON (1-6) (OFF. SHIFT. 1. 2. 3. 4. 5. 6)	
52	3-030-837-01	BUTTON (D-BASS)	
53	X-3377-051-1	PANEL SUB ASSY	
54	3-030-838-01	BUTTON (RELEASE)	
55	3-932-475-01	SPRING (RELEASE)	
56	3-030-831-01	BUTTON (SOURCE)	
57	3-030-830-01	KNOB (VOL)	
58	3-030-832-01	LEVER (S/A) (+. –)	

Ref. No.	Part No.	Description	Remark
59	3-030-834-01	BUTTON (M/S) (MODE ◄I►. SOUND)	
60	3-030-836-11	BUTTON (D/P/A) (⏏. – DISC +. DSPL)	
* 61	3-030-840-01	PLATE (B), GROUND	
* 62	3-030-839-01	SHEET (REFLECTOR)	
* 63	3-030-824-01	PLATE, LIGHT GUIDE	
64	1-694-508-11	CONDUCTIVE BOARD, CONNECTION	
* 65	3-030-825-01	HOLDER (LCD)	
66	3-030-827-01	PANEL, FRONT BACK	
LCD901	1-803-495-11	DISPLAY PANEL, LIQUID CRYSTAL	

(3) MECHANISM DECK SECTION (MG-25F-136)



Ref. No.	Part No.	Description	Remark
151	A-3291-667-A	CLUTCH (FR) ASSY	
* 152	3-019-130-01	LEVER (LDG-A)	
* 153	3-019-131-01	LEVER (LDG-B)	
154	3-020-539-01	SPRING (LD-1), TENSION	
155	3-020-540-01	SPRING (LD-2), TENSION	
156	3-020-542-01	GEAR (LOADING FT)	
157	3-341-753-11	WASHER, POLYETHYLENE	
158	3-020-533-01	HOUSING	
* 159	3-020-532-01	ARM (SUCTION)	
160	3-020-534-01	HANGER	

Ref. No.	Part No.	Description	Remark
161	3-933-346-01	CATCHER	
162	3-933-344-01	GUIDE (C)	
163	3-014-798-01	SCREW (HEAD), SPECIAL	
164	3-364-151-01	WASHER	
165	A-3301-267-A	CHASSIS ASSY (G)	
166	3-017-302-01	BELT (25)	
167	3-936-853-01	FLYWHEEL (F)	
168	3-701-437-21	WASHER	
HP901	1-500-157-21	HEAD, MAGNETIC (PLAYBACK)	
M901	A-3291-665-A	MOTOR ASSY, MAIN (CAPSTAN/REEL)	

SECTION 8
ELECTRICAL PARTS LIST

KEY

When indicating parts by reference number, please include the board.

NOTE:
- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- -XX and -X mean standardized parts, so they may have some difference from the original one.
- RESISTORS
  All resistors are in ohms.
  METAL: Metal-film resistor.
  METAL OXIDE: Metal oxide-film resistor.
  F: nonflammable
- Items marked "*" are not stocked since they are seldom required for routine service.
  Some delay should be anticipated when ordering these items.
- SEMICONDUCTORS
  In each case, u: µ, for example:
  uA. . : µA. . uPA. . : µPA. .
  uPB. . : µPB. . uPC. . : µPC. .
  uPD. . : µPD. .
- CAPACITORS
  uF: µF
- COILS
  uH: µH

Ref. No.	Part No.	Description	Remark
		KEY BOARD	
		**********	
	1-694-508-11	CONDUCTIVE BOARD, CONNECTION	
*	3-030-824-01	PLATE, LIGHT GUIDE	
*	3-030-825-01	HOLDER (LCD)	
*	3-030-839-01	SHEET (REFLECTOR)	
*	3-030-840-01	PLATE (B), GROUND	
		< CAPACITOR >	
C952	1-163-033-00	CERAMIC CHIP 0.022uF	50V
C953	1-163-251-11	CERAMIC CHIP 100PF 5%	50V
C954	1-165-319-11	CERAMIC CHIP 0.1uF	50V
C955	1-165-319-11	CERAMIC CHIP 0.1uF	50V
C956	1-164-222-11	CERAMIC CHIP 0.22uF	25V
		< CONNECTOR >	
CNP901	1-785-775-11	PIN, CONNECTOR 15P	
		< DIODE >	
D902	8-719-105-99	DIODE RD6.2M-B1	
D903	8-719-105-99	DIODE RD6.2M-B1	
D904	8-719-105-99	DIODE RD6.2M-B1	
D951	8-719-422-49	DIODE MA8056-L	
		< IC >	
IC901	8-759-366-34	IC LC75824E	
		< LIQUID CRYSTAL DISPLAY >	
LCD901	1-803-495-11	DISPLAY PANEL, LIQUID CRYSTAL	
		< SWITCH >	
LSW901	1-771-609-11	SWITCH, TACTILE (WITH LED) (OFF)	
LSW902	1-762-619-21	SWITCH, KEY BOARD (WITH LED) (SOURCE)	
LSW903	1-762-619-21	SWITCH, KEY BOARD (WITH LED) (MODE ◄I►)	
LSW905	1-762-619-21	SWITCH, KEY BOARD (WITH LED) (SOUND)	
LSW906	1-762-619-21	SWITCH, KEY BOARD (WITH LED) (SHIFT)	
LSW921	1-762-619-21	SWITCH, KEY BOARD (WITH LED) (⏏)	
LSW922	1-762-619-21	SWITCH, KEY BOARD (WITH LED) (– DISC, – PRESET)	
LSW923	1-762-619-21	SWITCH, KEY BOARD (WITH LED) (+ DISC, + PRESET)	
LSW927	1-762-619-21	SWITCH, KEY BOARD (WITH LED) (DSPL)	
LSW928	1-771-609-11	SWITCH, TACTILE (WITH LED) (6)	
LSW929	1-771-609-11	SWITCH, TACTILE (WITH LED) (5)	
LSW930	1-771-609-11	SWITCH, TACTILE (WITH LED) (4, →)	
LSW931	1-771-609-11	SWITCH, TACTILE (WITH LED) (3, PLAY MODE)	
LSW932	1-771-609-11	SWITCH, TACTILE (WITH LED) (2, SET UP)	
LSW933	1-771-609-11	SWITCH, TACTILE (WITH LED) (1, ←)	
		< PILOT LAMP >	
PL901	1-517-633-21	LAMP, PILOT (LCD BACK LIGHT)	
PL902	1-517-633-21	LAMP, PILOT (LCD BACK LIGHT)	
		< TRANSISTOR >	
Q945	8-729-900-53	TRANSISTOR DTC114EK	
		< RESISTOR >	
R901	1-216-647-11	METAL CHIP 680 0.5%	1/10W
R902	1-216-647-11	METAL CHIP 680 0.5%	1/10W
R903	1-216-647-11	METAL CHIP 680 0.5%	1/10W
R904	1-216-651-11	METAL CHIP 1K 0.5%	1/10W
R905	1-216-655-11	METAL CHIP 1.5K 0.5%	1/10W
R906	1-216-655-11	METAL CHIP 1.5K 0.5%	1/10W
R907	1-216-659-11	METAL CHIP 2.2K 0.5%	1/10W
R916	1-216-033-00	METAL CHIP 220 5%	1/10W
R921	1-216-647-11	METAL CHIP 680 0.5%	1/10W
R922	1-216-647-11	METAL CHIP 680 0.5%	1/10W
R923	1-216-647-11	METAL CHIP 680 0.5%	1/10W
R924	1-216-651-11	METAL CHIP 1K 0.5%	1/10W
R925	1-216-655-11	METAL CHIP 1.5K 0.5%	1/10W
R926	1-216-655-11	METAL CHIP 1.5K 0.5%	1/10W
R927	1-216-659-11	METAL CHIP 2.2K 0.5%	1/10W
R928	1-216-663-11	METAL CHIP 3.3K 0.5%	1/10W
R929	1-216-667-11	METAL CHIP 4.7K 0.5%	1/10W
R930	1-216-671-11	METAL CHIP 6.8K 0.5%	1/10W
R931	1-208-806-11	RES, CHIP 10K 2%	1/10W
R932	1-208-810-11	RES, CHIP 15K 2%	1/10W
R951	1-216-041-00	METAL CHIP 470 5%	1/10W
R953	1-216-121-00	RES, CHIP 1M 5%	1/10W
R954	1-216-049-11	RES, CHIP 1K 5%	1/10W
R955	1-216-049-11	RES, CHIP 1K 5%	1/10W
R956	1-216-049-11	RES, CHIP 1K 5%	1/10W
R957	1-216-109-00	METAL CHIP 330K 5%	1/10W
R961	1-216-021-00	METAL CHIP 68 5%	1/10W
R963	1-216-033-00	METAL CHIP 220 5%	1/10W

KEY **MAIN**

Ref. No.	Part No.	Description			Remark
R965	1-216-033-00	METAL CHIP	220	5%	1/10W
R967	1-216-033-00	METAL CHIP	220	5%	1/10W
R969	1-216-033-00	METAL CHIP	220	5%	1/10W
R975	1-216-029-00	METAL CHIP	150	5%	1/10W
R977	1-216-037-00	METAL CHIP	330	5%	1/10W
R981	1-216-655-11	METAL CHIP	1.5K	0.5%	1/10W
R982	1-216-663-11	METAL CHIP	3.3K	0.5%	1/10W
R983	1-216-671-11	METAL CHIP	6.8K	0.5%	1/10W
R984	1-216-081-00	METAL CHIP	22K	5%	1/10W
R990	1-216-295-00	SHORT	0		
R991	1-216-295-00	SHORT	0		
R999	1-216-295-00	SHORT	0		
		< ROTARY ENCODER >			
RE901	1-475-014-11	ENCODER, ROTARY (VOLUME/BASS/TREBLE/ BALANCE/FADER CONTROL)			
		< SWITCH >			
S901	1-771-290-11	SWITCH, SLIDE (SEEK AMS + ▶▶I ▶▶, – I◀◀ ◀◀)			
S981	1-762-937-11	SWITCH, ROTARY (D-BASS)			
**********					
*	A-3317-384-A	MAIN BOARD, COMPLETE **********			
*	3-018-390-01	BRACKET (IC)			
*	3-031-023-11	HEAT SINK			
	7-685-793-09	SCREW +PTT 2.6X8 (S)			
	7-685-794-09	SCREW +PTT 2.6X10 (S)			
		< CAPACITOR >			
C1	1-163-235-11	CERAMIC CHIP	22PF	5%	50V
C2	1-163-133-00	CERAMIC CHIP	470PF	5%	50V
C3	1-124-234-00	ELECT	22uF	20%	16V
C4	1-124-233-11	ELECT	10uF	20%	16V
C5	1-124-234-00	ELECT	22uF	20%	16V
C6	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C7	1-163-021-11	CERAMIC CHIP	0.01uF	10%	50V
C8	1-163-021-11	CERAMIC CHIP	0.01uF	10%	50V
C9	1-163-205-00	CERAMIC CHIP	0.001uF	5%	50V
C10	1-163-205-00	CERAMIC CHIP	0.001uF	5%	50V
C11	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C12	1-164-489-11	CERAMIC CHIP	0.22uF	10%	16V
C21	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C22	1-163-021-11	CERAMIC CHIP	0.01uF	10%	50V
C23	1-124-234-00	ELECT	22uF	20%	16V
C24	1-163-021-11	CERAMIC CHIP	0.01uF	10%	50V
C25	1-163-091-00	CERAMIC CHIP	8PF		50V
C26	1-124-233-11	ELECT	10uF	20%	16V
C27	1-163-222-11	CERAMIC CHIP	5PF	0.25PF	50V
C28	1-163-231-11	CERAMIC CHIP	15PF	5%	50V
C29	1-163-133-00	CERAMIC CHIP	470PF	5%	50V
C30	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C31	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C32	1-163-017-00	CERAMIC CHIP	0.0047uF	5%	50V
C33	1-163-809-11	CERAMIC CHIP	0.047uF	10%	25V
C34	1-109-982-11	CERAMIC CHIP	1uF	10%	10V
C35	1-163-809-11	CERAMIC CHIP	0.047uF	10%	25V

Ref. No.	Part No.	Description			Remark
C36	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C37	1-124-233-11	ELECT	10uF	20%	16V
C38	1-163-809-11	CERAMIC CHIP	0.047uF	10%	25V
C39	1-163-133-00	CERAMIC CHIP	470PF	5%	50V
C41	1-163-021-11	CERAMIC CHIP	0.01uF	10%	50V
C44	1-163-133-00	CERAMIC CHIP	470PF	5%	50V
C51	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C52	1-124-233-11	ELECT	10uF	20%	16V
C53	1-124-234-00	ELECT	22uF	20%	16V
C54	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C55	1-124-234-00	ELECT	22uF	20%	16V
C56	1-124-234-00	ELECT	22uF	20%	16V
C101	1-163-263-11	CERAMIC CHIP	330PF	5%	50V
C102	1-163-263-11	CERAMIC CHIP	330PF	5%	50V
C103	1-163-021-11	CERAMIC CHIP	0.01uF	10%	50V
C104	1-164-489-11	CERAMIC CHIP	0.22uF	10%	16V
C105	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C106	1-164-505-11	CERAMIC CHIP	2.2uF		16V
C107	1-163-263-11	CERAMIC CHIP	330PF	5%	50V
C108	1-164-505-11	CERAMIC CHIP	2.2uF		16V
C109	1-163-227-11	CERAMIC CHIP	10PF	0.5PF	50V
C110	1-163-227-11	CERAMIC CHIP	10PF	0.5PF	50V
C111	1-163-227-11	CERAMIC CHIP	10PF	0.5PF	50V
C121	1-107-823-11	CERAMIC CHIP	0.47uF	10%	16V
C122	1-163-021-11	CERAMIC CHIP	0.01uF	10%	50V
C124	1-107-823-11	CERAMIC CHIP	0.47uF	10%	16V
C141	1-165-320-11	CERAMIC CHIP	0.47uF	10%	16V
C142	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C151	1-163-986-00	CERAMIC CHIP	0.027uF	10%	25V
C152	1-164-505-11	CERAMIC CHIP	2.2uF		16V
C153	1-164-505-11	CERAMIC CHIP	2.2uF		16V
C171	1-126-163-11	ELECT	4.7uF	20%	50V
C172	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C174	1-164-489-11	CERAMIC CHIP	0.22uF	10%	16V
C181	1-126-163-11	ELECT	4.7uF	20%	50V
C182	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C183	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C184	1-164-489-11	CERAMIC CHIP	0.22uF	10%	16V
C191	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C201	1-163-263-11	CERAMIC CHIP	330PF	5%	50V
C202	1-163-263-11	CERAMIC CHIP	330PF	5%	50V
C203	1-163-021-11	CERAMIC CHIP	0.01uF	10%	50V
C204	1-164-489-11	CERAMIC CHIP	0.22uF	10%	16V
C205	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C206	1-164-505-11	CERAMIC CHIP	2.2uF		16V
C207	1-163-263-11	CERAMIC CHIP	330PF	5%	50V
C208	1-164-505-11	CERAMIC CHIP	2.2uF		16V
C209	1-163-227-11	CERAMIC CHIP	10PF	0.5PF	50V
C210	1-163-227-11	CERAMIC CHIP	10PF	0.5PF	50V
C211	1-163-227-11	CERAMIC CHIP	10PF	0.5PF	50V
C241	1-165-320-11	CERAMIC CHIP	0.47uF	10%	16V
C242	1-163-181-00	CERAMIC CHIP	100PF	5%	50V
C251	1-163-986-00	CERAMIC CHIP	0.027uF	10%	25V
C252	1-164-505-11	CERAMIC CHIP	2.2uF		16V
C253	1-164-505-11	CERAMIC CHIP	2.2uF		16V
C271	1-126-163-11	ELECT	4.7uF	20%	50V
C272	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C274	1-164-489-11	CERAMIC CHIP	0.22uF	10%	16V

Ref. No.	Part No.	Description			Remark
C281	1-126-163-11	ELECT	4.7uF	20%	50V
C282	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C283	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C284	1-164-489-11	CERAMIC CHIP	0.22uF	10%	16V
C301	1-124-234-00	ELECT	22uF	20%	16V
C303	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C304	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C305	1-107-823-11	CERAMIC CHIP	0.47uF	10%	16V
C306	1-163-021-11	CERAMIC CHIP	0.01uF	10%	50V
C307	1-163-021-11	CERAMIC CHIP	0.01uF	10%	50V
C333	1-124-233-11	ELECT	10uF	20%	16V
C334	1-163-021-11	CERAMIC CHIP	0.01uF	10%	50V
C335	1-124-584-00	ELECT	100uF	20%	10V
C336	1-163-809-11	CERAMIC CHIP	0.047uF	10%	25V
C337	1-124-234-00	ELECT	22uF	20%	16V
C351	1-165-319-11	CERAMIC CHIP	0.1uF		50V
C352	1-165-319-11	CERAMIC CHIP	0.1uF		50V
C353	1-163-021-11	CERAMIC CHIP	0.01uF	10%	50V
C354	1-124-233-11	ELECT	10uF	20%	16V
C355	1-124-234-00	ELECT	22uF	20%	16V
C356	1-126-934-11	ELECT	220uF	20%	16V
C357	1-165-319-11	CERAMIC CHIP	0.1uF		50V
C358	1-163-021-11	CERAMIC CHIP	0.01uF	10%	50V
C501	1-124-584-00	ELECT	100uF	20%	10V
C502	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C503	1-163-231-11	CERAMIC CHIP	15PF	5%	50V
C504	1-163-231-11	CERAMIC CHIP	15PF	5%	50V
C505	1-163-234-11	CERAMIC CHIP	20PF	5%	50V
C506	1-163-235-11	CERAMIC CHIP	22PF	5%	50V
C507	1-163-213-00	CERAMIC CHIP	0.0022uF	5%	50V
C508	1-164-161-11	CERAMIC CHIP	0.0022uF	10%	100V
C551	1-125-710-11	DOUBLE LAYER	0.1F	0	5.5V
C552	1-128-057-11	ELECT	330uF	20%	6.3V
C553	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C556	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C571	1-126-163-11	ELECT	4.7uF	20%	50V
C581	1-164-506-11	CERAMIC CHIP	4.7uF		16V
C582	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C583	1-165-319-11	CERAMIC CHIP	0.1uF		50V
C584	1-163-077-00	CERAMIC CHIP	0.1uF	10%	25V
C601	1-164-346-11	CERAMIC CHIP	1uF		16V
C602	1-164-346-11	CERAMIC CHIP	1uF		16V
C611	1-124-233-11	ELECT	10uF	20%	16V
C612	1-124-233-11	ELECT	10uF	20%	16V
C614	1-124-233-11	ELECT	10uF	20%	16V
C615	1-124-233-11	ELECT	10uF	20%	16V
C616	1-124-233-11	ELECT	10uF	20%	16V
C617	1-124-233-11	ELECT	10uF	20%	16V
C618	1-164-506-11	CERAMIC CHIP	4.7uF		16V
C621	1-164-489-11	CERAMIC CHIP	0.22uF	10%	16V
C622	1-124-589-11	ELECT	47uF	20%	16V
C623	1-164-506-11	CERAMIC CHIP	4.7uF		16V
C751	1-128-076-11	ELECT	10uF	20%	25V
C752	1-107-682-11	CERAMIC CHIP	1uF	10%	16V
C754	1-124-233-11	ELECT	10uF	20%	16V
C755	1-124-589-11	ELECT	47uF	20%	16V
C757	1-124-233-11	ELECT	10uF	20%	16V

Ref. No.	Part No.	Description			Remark
C781	1-126-936-11	ELECT	3300uF	20%	16V
C782	1-163-077-00	CERAMIC CHIP	0.1uF	10%	25V
C783	1-163-077-00	CERAMIC CHIP	0.1uF	10%	25V
C784	1-163-077-00	CERAMIC CHIP	0.1uF	10%	25V
C786	1-109-982-11	CERAMIC CHIP	1uF	10%	10V
C787	1-109-982-11	CERAMIC CHIP	1uF	10%	10V
C788	1-163-077-00	CERAMIC CHIP	0.1uF	10%	25V
C789	1-163-077-00	CERAMIC CHIP	0.1uF	10%	25V
C790	1-163-077-00	CERAMIC CHIP	0.1uF	10%	25V
C792	1-163-077-00	CERAMIC CHIP	0.1uF	10%	25V
C795	1-109-982-11	CERAMIC CHIP	1uF	10%	10V

< CONNECTOR >

CN301	1-766-260-11	CONNECTOR, FFC/FPC (ZIF) 7P	
* CN351	1-506-995-11	PIN, CONNECTOR (PC BOARD) 13P	
CN581	1-580-907-31	PLUG, CONNECTOR (BUS CONTROL IN)	
CN701	1-785-774-11	PLUG, CONNECTOR 15P	
CN781	1-774-701-11	PIN, CONNECTOR 16P (POWER)	

< DIODE >

D1	8-719-991-65	DIODE	SB02W03C
D51	8-719-158-15	DIODE	RD5.6S-B
D52	8-719-422-97	DIODE	MA8091-M
D351	8-719-977-22	DIODE	DTZ9.1
D352	8-719-911-19	DIODE	1SS119
D501	8-719-400-20	DIODE	MA152WA
D551	8-719-400-20	DIODE	MA152WA
D552	8-719-404-50	DIODE	MA111-TX
D553	8-719-404-50	DIODE	MA111-TX
D554	8-719-072-70	DIODE	MA2ZD14001S0
D571	8-719-057-80	DIODE	MA8160-M-TX
D572	8-719-420-14	DIODE	MA8082-M
D581	8-719-057-80	DIODE	MA8160-M-TX
D582	8-719-017-62	DIODE	MA8068-L-TX
D583	8-719-105-99	DIODE	RD6.2M-B1
D584	8-719-057-80	DIODE	MA8160-M-TX
D585	8-719-072-70	DIODE	MA2ZD14001S0
D586	8-719-057-80	DIODE	MA8160-M-TX
D587	8-719-404-50	DIODE	MA111-TX
D601	8-719-423-32	DIODE	MA8120-M
D610	8-719-970-02	DIODE	1SR139-400
D611	8-719-970-02	DIODE	1SR139-400
D613	8-719-970-02	DIODE	1SR139-400
D614	8-719-970-02	DIODE	1SR139-400
D621	8-719-422-12	DIODE	MA8039
D622	8-719-404-50	DIODE	MA111-TX
D623	8-719-422-12	DIODE	MA8039
D624	8-719-422-97	DIODE	MA8091-M
D701	8-719-977-12	DIODE	DTZ6.8B
D702	8-719-158-15	DIODE	RD5.6S-B
D704	8-719-158-15	DIODE	RD5.6S-B
D705	8-719-035-74	DIODE	MA4062-M (TA)
D706	8-719-035-74	DIODE	MA4062-M (TA)
D707	8-719-035-74	DIODE	MA4062-M (TA)
D708	8-719-105-99	DIODE	RD6.2M-B1
D709	8-719-035-74	DIODE	MA4062-M (TA)
D710	8-719-977-12	DIODE	DTZ6.8B
D711	8-719-423-32	DIODE	MA8120-M

MAIN

Ref. No.	Part No.	Description	Remark
D712	8-719-404-50	DIODE MA111-TX	
D713	8-719-404-50	DIODE MA111-TX	
D721	8-719-970-02	DIODE 1SR139-400	
D722	8-719-970-02	DIODE 1SR139-400	
D723	8-719-970-02	DIODE 1SR139-400	
D724	8-719-970-02	DIODE 1SR139-400	
D731	8-719-970-02	DIODE 1SR139-400	
D732	8-719-970-02	DIODE 1SR139-400	
D733	8-719-970-02	DIODE 1SR139-400	
D734	8-719-970-02	DIODE 1SR139-400	
D781	8-719-049-38	DIODE 1N5404TU	
		< IC >	
IC21	8-759-586-59	IC TB2118F-EL-S	
IC301	8-752-079-78	IC CXA2509AQ-T4	
IC331	8-759-572-10	IC TDA7462D013TR	
IC351	8-759-527-33	IC LB1930M-TLM	
IC501	8-759-585-88	IC MN101C12GTA1	
IC551	8-759-574-61	IC XC61AN4302MR	
IC581	8-759-449-89	IC BA8270F-E2	
IC611	8-759-347-49	IC BA3918-V2	
IC751	8-759-490-74	IC TDA7384	
		< JACK >	
J1	1-764-808-21	JACK (ANT) (FM/AM ANTENNA)	
J331	1-774-699-12	JACK, PIN 4P (BUS AUDIO IN, AUDIO OUT (LINE OUT))	
J561	1-566-822-41	JACK (REMOTE IN)	
		< SHORT >	
JC1	1-216-296-00	SHORT 0	
JC2	1-216-296-00	SHORT 0	
JC3	1-216-296-00	SHORT 0	
JC4	1-216-296-00	SHORT 0	
JC7	1-216-296-00	SHORT 0	
JC21	1-216-296-00	SHORT 0	
JC22	1-216-295-00	SHORT 0	
JC25	1-216-296-00	SHORT 0	
JC26	1-216-295-00	SHORT 0	
JC31	1-216-296-00	SHORT 0	
JC32	1-216-296-00	SHORT 0	
JC52	1-216-295-00	SHORT 0	
JC121	1-216-295-00	SHORT 0	
JC151	1-216-295-00	SHORT 0	
JC152	1-216-295-00	SHORT 0	
JC181	1-216-296-00	SHORT 0	
JC182	1-216-295-00	SHORT 0	
JC191	1-216-296-00	SHORT 0	
JC192	1-216-296-00	SHORT 0	
JC272	1-216-296-00	SHORT 0	
JC301	1-216-295-00	SHORT 0	
JC302	1-216-295-00	SHORT 0	
JC303	1-216-295-00	SHORT 0	
JC304	1-216-295-00	SHORT 0	
JC305	1-216-296-00	SHORT 0	
JC331	1-216-296-00	SHORT 0	
JC332	1-216-296-00	SHORT 0	
JC351	1-216-295-00	SHORT 0	

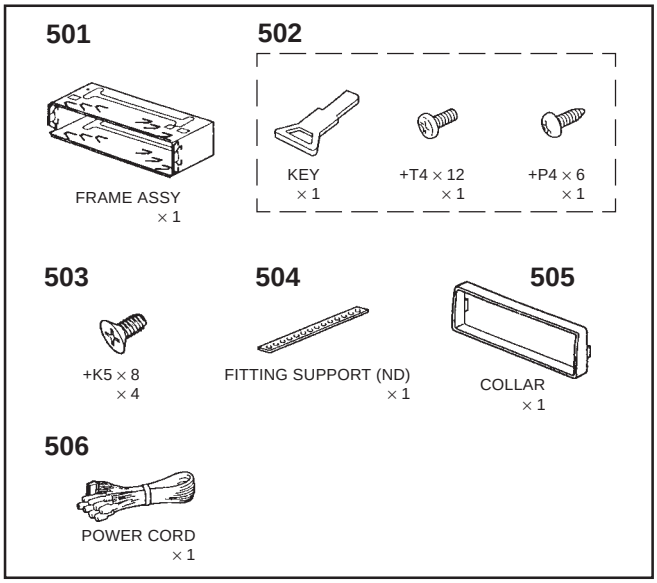
Ref. No.	Part No.	Description	Remark
JC352	1-216-295-00	SHORT 0	
JC354	1-216-296-00	SHORT 0	
JC356	1-216-296-00	SHORT 0	
JC501	1-216-295-00	SHORT 0	
JC502	1-216-295-00	SHORT 0	
JC504	1-216-296-00	SHORT 0	
JC506	1-216-296-00	SHORT 0	
JC507	1-216-295-00	SHORT 0	
JC508	1-216-295-00	SHORT 0	
JC551	1-216-295-00	SHORT 0	
JC571	1-216-296-00	SHORT 0	
JC581	1-216-296-00	SHORT 0	
JC582	1-216-296-00	SHORT 0	
JC601	1-216-296-00	SHORT 0	
JC611	1-410-196-11	INDUCTOR CHIP 2.2uH	
JC621	1-216-296-00	SHORT 0	
JC622	1-216-296-00	SHORT 0	
JC705	1-216-296-00	SHORT 0	
JC751	1-216-296-00	SHORT 0	
JC752	1-216-295-00	SHORT 0	
JC781	1-216-296-00	SHORT 0	
JC782	1-216-295-00	SHORT 0	
JC992	1-216-296-00	SHORT 0	
		< COIL >	
L2	1-469-132-21	FERRITE 0uH	
L4	1-410-501-11	INDUCTOR 2.2uH	
L21	1-410-509-11	INDUCTOR 10uH	
L22	1-410-989-11	INDUCTOR CHIP 0.47uH	
L501	1-410-989-11	INDUCTOR CHIP 0.47uH	
L781	1-411-669-12	CHOKE COIL	
		< TRANSISTOR >	
Q51	8-729-106-68	TRANSISTOR 2SD1615A-GP	
Q52	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q121	8-729-920-21	TRANSISTOR DTC314TKH04	
Q151	8-729-920-21	TRANSISTOR DTC314TKH04	
Q171	8-729-920-21	TRANSISTOR DTC314TKH04	
Q181	8-729-920-21	TRANSISTOR DTC314TKH04	
Q251	8-729-920-21	TRANSISTOR DTC314TKH04	
Q271	8-729-920-21	TRANSISTOR DTC314TKH04	
Q281	8-729-920-21	TRANSISTOR DTC314TKH04	
Q351	8-729-015-11	TRANSISTOR 2SD1802FAST-TL	
Q352	8-729-020-67	TRANSISTOR XN1A312-TX	
Q353	8-729-900-53	TRANSISTOR DTC114EK	
Q354	8-729-106-60	TRANSISTOR 2SB1115A	
Q551	8-729-027-23	TRANSISTOR DTA114EKA-T146	
Q571	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q581	8-729-900-53	TRANSISTOR DTC114EK	
Q582	8-729-027-23	TRANSISTOR DTA114EKA-T146	
Q601	8-729-423-99	TRANSISTOR 2SD2137-OP	
Q602	8-729-020-67	TRANSISTOR XN1A312-TX	
Q621	8-729-027-23	TRANSISTOR DTA114EKA-T146	
Q622	8-729-021-94	FET 2SK1657-T1B	

Ref. No.	Part No.	Description			Remark
		< RESISTOR >			
R1	1-216-049-11	RES, CHIP	1K	5%	1/10W
R2	1-216-073-00	METAL CHIP	10K	5%	1/10W
R3	1-216-174-00	RES, CHIP	100	5%	1/8W
R4	1-216-113-00	METAL CHIP	470K	5%	1/10W
R5	1-216-254-00	RES, CHIP	220K	5%	1/8W
R6	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R8	1-216-081-11	METAL CHIP	22K	5%	1/10W
R9	1-216-049-11	RES, CHIP	1K	5%	1/10W
R10	1-216-049-11	RES, CHIP	1K	5%	1/10W
R11	1-216-053-00	METAL CHIP	1.5K	5%	1/10W
R12	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R21	1-216-069-00	METAL CHIP	6.8K	5%	1/10W
R23	1-216-198-00	RES, CHIP	1K	5%	1/8W
R24	1-216-198-00	RES, CHIP	1K	5%	1/8W
R25	1-216-198-00	RES, CHIP	1K	5%	1/8W
R26	1-216-198-00	RES, CHIP	1K	5%	1/8W
R27	1-216-077-00	METAL CHIP	15K	5%	1/10W
R28	1-216-075-00	METAL CHIP	12K	5%	1/10W
R29	1-216-025-00	RES, CHIP	100	5%	1/10W
R30	1-216-049-11	RES, CHIP	1K	5%	1/10W
R31	1-216-298-00	METAL CHIP	2.2	5%	1/10W
R32	1-216-073-00	METAL CHIP	10K	5%	1/10W
R34	1-216-041-00	METAL CHIP	470	5%	1/10W
R51	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R52	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R101	1-216-041-00	METAL CHIP	470	5%	1/10W
R102	1-216-109-00	METAL CHIP	330K	5%	1/10W
R103	1-216-077-00	METAL CHIP	15K	5%	1/10W
R104	1-216-079-00	METAL CHIP	18K	5%	1/10W
R107	1-216-073-00	METAL CHIP	10K	5%	1/10W
R108	1-216-081-00	METAL CHIP	22K	5%	1/10W
R121	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R141	1-216-073-00	METAL CHIP	10K	5%	1/10W
R142	1-216-065-00	RES, CHIP	4.7K	5%	1/10W
R151	1-249-421-11	CARBON	2.2K	5%	1/4W
R152	1-216-073-00	METAL CHIP	10K	5%	1/10W
R171	1-216-033-00	METAL CHIP	220	5%	1/10W
R172	1-216-065-00	RES, CHIP	4.7K	5%	1/10W
R174	1-216-129-00	METAL CHIP	2.2M	5%	1/10W
R175	1-216-085-00	METAL CHIP	33K	5%	1/10W
R181	1-216-033-00	METAL CHIP	220	5%	1/10W
R182	1-216-065-00	RES, CHIP	4.7K	5%	1/10W
R184	1-216-129-00	METAL CHIP	2.2M	5%	1/10W
R185	1-216-085-00	METAL CHIP	33K	5%	1/10W
R191	1-249-429-11	CARBON	10K	5%	1/4W
R192	1-216-105-00	RES, CHIP	220K	5%	1/10W
R201	1-216-041-00	METAL CHIP	470	5%	1/10W
R202	1-216-109-00	METAL CHIP	330K	5%	1/10W
R203	1-216-077-00	METAL CHIP	15K	5%	1/10W
R204	1-216-079-00	METAL CHIP	18K	5%	1/10W
R205	1-216-073-00	METAL CHIP	10K	5%	1/10W
R206	1-216-081-00	METAL CHIP	22K	5%	1/10W
R241	1-216-073-00	METAL CHIP	10K	5%	1/10W
R242	1-216-065-00	RES, CHIP	4.7K	5%	1/10W
R251	1-249-421-11	CARBON	2.2K	5%	1/4W
R252	1-216-073-00	METAL CHIP	10K	5%	1/10W
R271	1-216-033-00	METAL CHIP	220	5%	1/10W
R272	1-216-065-00	RES, CHIP	4.7K	5%	1/10W
R274	1-216-129-00	METAL CHIP	2.2M	5%	1/10W
R275	1-216-085-00	METAL CHIP	33K	5%	1/10W
R281	1-216-033-00	METAL CHIP	220	5%	1/10W
R282	1-216-065-00	RES, CHIP	4.7K	5%	1/10W
R284	1-216-278-11	RES, CHIP	2.2M	5%	1/8W
R285	1-216-085-00	METAL CHIP	33K	5%	1/10W
R301	1-208-812-11	RES, CHIP	18K	2%	1/10W
R302	1-216-097-00	RES, CHIP	100K	5%	1/10W
R303	1-216-065-00	RES, CHIP	4.7K	5%	1/10W
R304	1-216-077-00	METAL CHIP	15K	5%	1/10W
R305	1-216-298-00	METAL CHIP	2.2	5%	1/10W
R306	1-216-105-00	RES, CHIP	220K	5%	1/10W
R331	1-216-298-00	METAL CHIP	2.2	5%	1/10W
R351	1-216-049-11	RES, CHIP	1K	5%	1/10W
R352	1-249-383-11	CARBON	1.5	5%	1/6W
R353	1-216-065-00	RES, CHIP	4.7K	5%	1/10W
R354	1-216-073-00	METAL CHIP	10K	5%	1/10W
R500	1-216-097-00	RES, CHIP	100K	5%	1/10W
R501	1-216-097-00	RES, CHIP	100K	5%	1/10W
R502	1-216-097-00	RES, CHIP	100K	5%	1/10W
R503	1-216-049-11	RES, CHIP	1K	5%	1/10W
R504	1-216-049-11	RES, CHIP	1K	5%	1/10W
R505	1-216-049-11	RES, CHIP	1K	5%	1/10W
R506	1-216-049-11	RES, CHIP	1K	5%	1/10W
R507	1-249-417-11	CARBON	1K	5%	1/4W
R508	1-249-417-11	CARBON	1K	5%	1/4W
R509	1-249-417-11	CARBON	1K	5%	1/4W
R510	1-247-807-31	CARBON	100	5%	1/4W
R511	1-216-206-00	RES, CHIP	2.2K	5%	1/8W
R512	1-216-246-00	RES, CHIP	100K	5%	1/8W
R513	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R514	1-247-807-31	CARBON	100	5%	1/4W
R517	1-216-246-00	RES, CHIP	100K	5%	1/8W
R518	1-216-097-00	RES, CHIP	100K	5%	1/10W
R519	1-216-097-00	RES, CHIP	100K	5%	1/10W
R520	1-216-049-11	RES, CHIP	1K	5%	1/10W
R521	1-216-049-11	RES, CHIP	1K	5%	1/10W
R523	1-216-049-11	RES, CHIP	1K	5%	1/10W
R525	1-216-097-00	RES, CHIP	100K	5%	1/10W
R526	1-216-097-00	RES, CHIP	100K	5%	1/10W
R527	1-216-097-00	RES, CHIP	100K	5%	1/10W
R528	1-216-097-00	RES, CHIP	100K	5%	1/10W
R529	1-216-097-00	RES, CHIP	100K	5%	1/10W
R530	1-216-246-00	RES, CHIP	100K	5%	1/8W
R532	1-216-097-00	RES, CHIP	100K	5%	1/10W
R534	1-216-222-00	RES, CHIP	10K	5%	1/8W
R535	1-249-417-11	CARBON	1K	5%	1/4W
R537	1-216-097-00	RES, CHIP	100K	5%	1/10W
R538	1-216-033-00	METAL CHIP	220	5%	1/10W
R539	1-216-097-00	RES, CHIP	100K	5%	1/10W
R540	1-216-246-00	RES, CHIP	100K	5%	1/8W
R541	1-216-097-00	RES, CHIP	100K	5%	1/10W
R542	1-216-097-00	RES, CHIP	100K	5%	1/10W
R544	1-216-049-11	RES, CHIP	1K	5%	1/10W
R545	1-216-174-00	RES, CHIP	100	5%	1/8W
R546	1-216-246-00	RES, CHIP	100K	5%	1/8W

MAIN

Ref. No.	Part No.	Description			Remark
R547	1-216-049-11	RES, CHIP	1K	5%	1/10W
R549	1-216-097-00	RES, CHIP	100K	5%	1/10W
R550	1-216-097-00	RES, CHIP	100K	5%	1/10W
R551	1-216-097-00	RES, CHIP	100K	5%	1/10W
R553	1-216-246-00	RES, CHIP	100K	5%	1/8W
R554	1-216-097-00	RES, CHIP	100K	5%	1/10W
R555	1-208-806-11	RES, CHIP	10K	0.5%	1/10W
R556	1-208-806-11	RES, CHIP	10K	0.5%	1/10W
R557	1-216-049-11	RES, CHIP	1K	5%	1/10W
R558	1-216-035-00	METAL CHIP	270	5%	1/10W
R561	1-216-073-00	METAL CHIP	10K	5%	1/10W
R562	1-208-806-11	RES, CHIP	10K	0.5%	1/10W
R563	1-216-025-00	RES, CHIP	100	5%	1/10W
R564	1-216-025-00	RES, CHIP	100	5%	1/10W
R571	1-216-089-00	RES, CHIP	47K	5%	1/10W
R572	1-216-089-00	RES, CHIP	47K	5%	1/10W
R573	1-249-421-11	CARBON	2.2K	5%	1/4W
R574	1-216-081-00	METAL CHIP	22K	5%	1/10W
R580	1-216-025-00	RES, CHIP	100	5%	1/10W
R581	1-216-089-00	RES, CHIP	47K	5%	1/10W
R582	1-216-073-00	METAL CHIP	10K	5%	1/10W
R583	1-216-025-00	RES, CHIP	100	5%	1/10W
R584	1-216-017-00	RES, CHIP	47	5%	1/10W
R585	1-216-089-00	RES, CHIP	47K	5%	1/10W
R601	1-249-393-11	CARBON	10	5%	1/4W
R602	1-249-395-11	CARBON	15	5%	1/4W
R603	1-216-186-00	RES, CHIP	330	5%	1/8W
R621	1-249-425-11	CARBON	4.7K	5%	1/4W
R622	1-216-073-00	METAL CHIP	10K	5%	1/10W
R702	1-216-025-00	RES, CHIP	100	5%	1/10W
R703	1-216-025-00	RES, CHIP	100	5%	1/10W
R704	1-216-295-00	SHORT	0		
R705	1-216-295-00	SHORT	0		
R706	1-216-049-11	RES, CHIP	1K	5%	1/10W
R707	1-216-049-11	RES, CHIP	1K	5%	1/10W
R708	1-216-198-00	RES, CHIP	1K	5%	1/8W
R709	1-216-174-00	RES, CHIP	100	5%	1/8W
R710	1-216-174-00	RES, CHIP	100	5%	1/8W
R711	1-216-049-11	RES, CHIP	1K	5%	1/10W
R712	1-216-049-11	RES, CHIP	1K	5%	1/10W
R713	1-216-025-00	RES, CHIP	100	5%	1/10W
R714	1-216-025-00	RES, CHIP	100	5%	1/10W
R751	1-216-049-11	RES, CHIP	1K	5%	1/10W
R753	1-216-049-11	RES, CHIP	1K	5%	1/10W
R781	1-216-081-00	METAL CHIP	22K	5%	1/10W
R782	1-216-230-00	RES, CHIP	22K	5%	1/8W
		< SWITCH >			
S501	1-571-478-11	SWITCH, SLIDE (POWER SELECT)			
S551	1-692-431-21	SWITCH, TACTILE (RESET)			
		< THERMISTOR >			
TH501	1-801-792-21	THERMISTOR, POSITIVE			
		< TUNER UNIT >			
TU1	A-3220-689-A	FM/AM TUNER UNIT TUX-010/2 (E)			

Ref. No.	Part No.	Description	Remark
		< VIBRATOR >	
X21	1-781-246-21	VIBRATOR, CRYSTAL (10.25MHz)	
X501	1-781-294-11	VIBRATOR, CRYSTAL (18.432MHz)	
X502	1-567-098-41	VIBRATOR, CRYSTAL (32.768KHz)	
**********			
		MISCELLANEOUS	
		**********	
9	1-776-207-31	CORD (WITH CONNECTOR) (POWER)	
F781	1-532-877-11	FUSE (BLADE TYPE) (AUTO FUSE) (10A)	
HP901	1-500-157-21	HEAD, MAGNETIC (PLAYBACK)	
M901	A-3291-665-A	MOTOR ASSY, MAIN (CAPSTAN/REEL)	
**********			
		**********	
		HARDWARE LIST	
		**********	
#1	7-621-772-10	SCREW +B 2X4	
#2	7-685-793-09	SCREW +PTT 2.6X8 (S)	
#3	7-685-792-09	SCREW +PTT 2.6X6 (S)	
#4	7-685-794-09	SCREW +PTT 2.6X10 (S)	
#5	7-685-106-19	SCREW +P 2X10 TYPE2 NON-SLIT	
#6	7-624-104-04	STOP RING 2.0, TYPE-E	
#7	7-627-553-17	PRECISION SCREW +P 2X2 TYPE 3	
**********			
		ACCESSORIES & PACKING MATERIALS	
		**********	
	3-865-814-11	MANUAL, INSTRUCTION (ENGLISH)	
	3-865-814-21	MANUAL, INSTRUCTION (FRENCH) (Canadian)	
	3-865-815-11	MANUAL, INSTRUCTION, INSTALL (ENGLISH, FRENCH)	
	X-3373-412-1	CASE (PANEL) ASSY (for FRONT PANEL)	
**********			
		PARTS FOR INSTALLATION AND CONNECTIONS	
		**********	
501	3-916-161-31	FRAME ASSY	
502	X-3370-076-1	SCREW ASSY (KEY), FITTING	
503	3-934-325-01	SCREW, +K (5X8) TAPPING	
504	3-924-961-01	SUPPORT (ND), FITTING	
505	3-018-384-01	COLLAR	
506	1-776-207-31	CORD (WITH CONNECTOR) (POWER)	



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